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THE MONTH

The register of chemists and druggists of Great Britain on December 31, 1876, contained 98 fewer names than a year previously. The present number is 13,178.

A correspondence was brought before the Pharmaceutical Council at its last meeting, between the secretary of the Trade Association, acting under the instructions of the Law Committee of the association, on the one hand, and the secretary of the Pharmaceutical Society on the other. The former asked the council of the Pharmaceutical Society to pledge itself to prosecute in all cases of infringement of the Pharmacy Act respecting which he (the secretary of the Trade Association) should collect the necessary evidence. This extraordinary demand excited some warm feeling in the Pharmaceutical Council, but a courteously-worded reply was framed and agreed to. The dictatorial tone adopted by the Birmingham Law Committee will assuredly prove so distasteful to the warmest supporters of the Trade Association that it is hardly likely to be repeated.

The Chemists' and Druggists' Trade Association held a meeting at Edinburgh on Tuesday last, Mr. George Blanchard presiding. Mr. T. Barclay (vice-president) and Mr. W. F. Haydon (secretary) attended from Birmingham, and among those who took part in the proceedings were Mr. William Gilmour, president of the North British branch of the Pharmaceutical Society, Messrs. Mackenzie, Laird (Dundee), Young, Davidson (Glasgow), and others. A resolution was carried unanimously pledging the meeting to support the Trade Association. In the course of his speech Mr. Barclay dealt at some length with the recently-published correspondence between the Law Committee of the association and the Pharmaceutical Council. He said their secretary asked, in the first place, would the council prosecute if they (the association) collected the *necessary* evidence. All they wanted was to be assured that if they went to the labour of getting up evidence they would be used as witnesses if the council thought the evidence sufficient. If the council had at first returned for answer the resolution moved at the last meeting by Mr. Bottle, that would have been all that was required.

The Association will hold a meeting at Newcastle-on-Tyne this evening (the 15th inst.), and at Liverpool during next week.

The Trade Association offers to advise any of its members respecting the patent medicine stamp. When it is remembered that the interpretation of the Medicine Stamp Act depends so largely on the good pleasure of the Board of Inland Revenue, as we pointed out last month, it must be obvious that in delicate cases the most skilful opinion can be of but little value, and of none in comparison with a definite answer from the Board itself, which can sometimes, but unfortunately not always, be obtained.

The Irish Pharmaceutical Society has commenced a series of evening meetings in Dublin. At the first, held on the 8th inst., some excellent papers were read by Mr. H. N. Draper, Dr. Walter Smith, and Professor Tichborne.

The trade of the country shows no sign of improvement as yet. The drug trade, judged by the demand at the public sales, has been fairly active.

The rapid advance in the price of petroleum, due to the formation of a "ring" among the refiners in America, as well as to a materially diminished supply, seems to have ended for the present. From nearly 2*s.* 6*d.* per gallon, which the refined oil reached last month, it has now dropped to little over half that sum.

We have the opportunity of noticing the American Year-Book of Pharmacy (the "Proceedings of the American Pharmaceutical Association") in this issue, but up to this date the English Year-Book has not made its appearance. The American Association held their meeting a week later than ours in Glasgow.

The death of Sir William Fergusson, which has been anticipated many months, occurred last Saturday. His portrait appeared in our last issue, and we now extend our brief sketch of his interesting career.

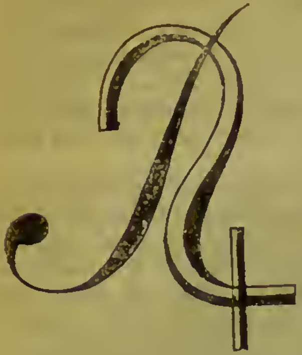
We print in this issue a valuable series of formulæ for perfumes, presented to the American Pharmaceutical Association by Mr. William Saunders, of London, Ontario, Canada.

The London School of Homœopathy has been organised, and a large amount of money has been subscribed. Lectures are to be delivered at the London Homœopathic Hospital, as announced in our advertisement pages, the object of these being to supplement the ordinary medical teaching by courses which shall explain especially homœopathic doctrines and practice. Dr. Richard Hughes is announced to deliver an introductory lecture on May 3.

Readers will gather much information in respect to the protection afforded by the law to owners of trade-marks if they will study our reports of the Chancery cases in regard to Brand's Essence of Beef and Grillon's Tamar Indien, both decided during the past month.

It has transpired that out of more than 12,000 applications for the registration of trade marks, only 260 had been completed up to the end of last year.

Pharmacalia.



The astrological symbol of Jupiter —converted into the sign for Recipe. (Dr. Paris, "Pharmacologia.")

It is a pleasant thing to have to record the continued activity of the Students' Association connected with the School of Pharmacy. Its young members from time to time contribute interesting papers, to one of which has been accorded the honour of publication. Mr. J. H. Hugill has discoursed in an agreeable manner about the hieroglyphics used to decorate the show bottles of the pharmacist. These signs originated from the supposed importance of planetary influence—a superstition as old as the earliest literature of science, and one not wanting in the writings of Classical antiquity. These symbols, which began in pure heathenism, were adopted, with variations, by the first astrologers, who left them as a heritage to the alchemist.

The signs are by no means uniform, as Mr. Hugill has pointed out, and some instances of their arbitrary and private use have doubtless caused him the same perplexity as they have other investigators.

Nevertheless, for the nobler metals and chief non-metallic elements, there was a recognised notation. Gold, which was thought to be the one universal metal of which all others were but baser forms, was depicted as the sun, with a central dot; the crescent moon was silver; iron was the shield and spear of Mars, being dedicated to the god of war, an honour which in these later days has been transferred to milk of sulphur. Sulphur itself was a triangle surmounting a cross; Mercury, deity and metal, was the caduceus of the winged messenger; tin was the shape which is now, with a slight alteration, affixed to a prescription, and was under the care of Jove; copper was the mirror of Venus, and dedicated to her service; antimony was her looking-glass reversed; and lead, whose symbol was the scythe of Time (the κρόνος of the Greeks and the Saturnus of the Latins), has added the adjective *saturnine* to our vocabulary. These signs also stood for the days over which each particular deity presided. The French closely followed this mythological arrangement, and adopted Lundi, Mardi, Mercredi, Jeudi, and Vendredi. In English we have borrowed Sun's-day and Moon's-day. Saturday is derived from the Saxon idol, Seater, not from Saturn.

After the date of the older Alchemists the medical practice was continued of Latinising the week-days in accordance with the astrological theory; and thus we get Dies Solis Lunæ, Martis, Mercurii, Jovis, Veneris et Saturni, a mode which has been continued down to the present time in pharmacy.

Mr. Hugill should not have perpetuated the mistake, unfortunately too common, of rendering Saturday by the incorrect title of Dies Saturnii. There is no such word except in the ledgers of sundry pharmacists—nor have we met with any copy of a Pharmacopœia (PL. 1745) which contains the inaccurate Latinity of Saccharum Saturnii. The old demigod was Saturnus, not Saturnius. Jove also should have had his rights acknowleged.

He was the perpetual warden of the Stannaries; and his mystic sign bore so much resemblance to the letter R, that the physician has interpreted it into recipe, and uncousciously adopted (says Dr. Paris) the ancient symbol of authority. With regard to other signs for acids, alkalies and compounds, as far as our experience goes with reference to old print or manuscript, we have never been able to tabulate them with any certainty, having found an uncomfortable divergence of expression.

Without, therefore, throwing a shadow of doubt on the researches of Mr. Hugill, we must say that some of the signs quoted are not those with which we have been familiar.

The Boyle symbol for fire was the upright triangle △; that for water of ammonia was the same reversed ▽; while spirit of ammonia, weak or strong, was the reversed triangle with a median line ▽. These signs were used in Godfrey's laboratory, and the old man, whose history has been sketched already, used no other. Boyle's laboratory was for some time devoted to alchemy, under the superintendence of a German charlatan, the last of the Rosicrucians, and his symbols were as above stated. Seeking information on the matter, we consulted the work of Sir Kenelm Digby, entitled "Chymical Secrets and Rare Experiments," 1683. In one part he describes the Athanor or digesting furnace thus—

"At the beginning the ▽ was given only below, and so gentle that the ☿ never sublimed" (p. 28).

Again, another fusible salt—

"Dissolve salt in rain ▽ and congeal; when the ▽ is almost evaporated and that the salt falls to the bottom, take it out with a wooden spoon by little and little until the ▽ is exhaled" (p. 59).

This symbol for water is of frequent recurrence in many authors. The triangle reversed with median line probably is a corruption of the old sign ▽.

Let us give a short specimen of this symbolic shorthand writing:—

☉	Gold	Dies Solis	Sunday	Sonntag		
☽	Silver	,, Lunæ	Moon-day	Lundi	Montag	
♂	Iron	,, Martis	Mardi			
☿	Mercury	,, Mercurii	Mercredi			
♃	Tin	,, Jovis	Jeudi			
♀	Copper	,, Veneris	Vendredi			
♄	Lead	,, Saturni				

The signs were used stenographically throughout. Thus:—

⏜ to sublime ⏜mation ⏜med.

and so throughout the series.

This curious symbol ⋇, which might be mistaken for a note of reference, meant sal ammoniac.

The mode of incorporating these hieroglyphics into the text may be seen by the following passage—by *eagles* understand successive sublimations.

"☿ doth bear rule over all metalline bodies, and dissolves them into their nearest matter Mercurial by separating their

Sulphurs, and know that the Mercury of one, two, or three eagles commandeth ♄ ♃ and ♀, and it rules over the ☽ from three eagles to seven; then it rules over the ☉ even to ten eagles."

"Shut Palace of the King."

A change came over the spirit of the age. It ceased to reverence the myths of Classical literature—partly owing to the decay of learning—for men were not likely to be influenced by fables, the text of which they could not construe, and with whose associations they were not familiar; secondly, there sprang up a quaint and exaggerated pietism, in the main sincere, more generally assumed, and many exhibitions of this fashion of the times render the writings of the later Alchemists repulsive, if not ludicrous. To exclude a notice of the religious aspect of chemical hieroglyphics is to miss a marked point in their history.

The Adepts wrote, or supposed they did, under the guidance of immediate inspiration. Thus the author of "The Shut Palace of the King," 1645, remarks—

"Many a time in writing I laid aside my pen, because I was rather willing to have concealed the truth under the mask of envy, but God compelled me to write, whom I could not resist, who alone knows the heart, to whom only be glory for ever."

We believe "The Shut Palace" to be an honest book, allowance being made for the stupendous self-conceit inseparable from such productions. In its pages the student who cares for such matters will find an explanation of the various signs which tradition has bequeathed to Pharmacy.

"A New Light of Alchymy" (1674) is an example of the fair side of pietism. The preface ends by an exhortation to the Adepts not to forget "to love their poor neighbour in the fear of God (setting aside all vain ostentation), let them sing everlasting praises of thankfulness unto the great and good God for so special a gift, and use it well with a silent and religious joy."

It is remarkable that there is never an allusion to Satanic agency in these old books on alchemy. The Adept might crowd his pages with occult hieroglyphics, and suspend a huge crocodile from his ceiling to awe the vulgar, but he had no dealings with the evil one, and in those days the devil never made gold. The remains of this reverent spirit was seen in the old ledgers of our forefathers, who headed the transactions of the year with the sentence, inscribed in red ink, "In the Name of the Holy Trinity—Amen."

The same feeling taught the Alchemist to stamp what is still called the crucible with the emblem of the cross.

We would venture to claim respect for this Arabian and Mediæval symbolism, the more so when we recall the turgid and preposterous descriptions from which it was the escape, and in the very midst of which it took its rise. Much of it may be deemed fanciful and more of it superstitious: for all that, it was a distinct advance in the direction of the clear, the definite, and the scientific. Berzelius himself, whose system of notation has so wonderfully facilitated modern labours, connected the same mechanical agency with higher intelligence and truer philosophy.

The symbol is now more than the symbol; it has teachings of its own to tell. But it was a grand thing that these alchemists, with their dreams and their realities, their patient searching after truth, and their lying wonders, should yet have been the first to show that light which the wisest in succeeding generations have but trimmed.

⁂

Let us listen for a while to what Sir John Lubbock had to say at the Linnean Society about the ants.

The *formica rufa* is to some extent of pharmaceutical interest, as the secretion which it furnishes contains the acid from which the word formic is derived.

These ants are strange insects, and, according to the lecturer's account, their ways are but little understood.

Their proverbial industry is attested by careful observations—one poor unfortunate, having been imprisoned for a week, was absent but four hours at the nest for the purpose of refreshment, and directly afterwards returned to its usual work.

Experiments have rudely upset their character for higher instinct: they seem totally unable either to cross over so slight a chasm, or to convey intelligence to their companions. They treat a stranger with barbarous inhospitality, dragging him about, and inflicting torment, and were ready to behave in the same way to a painted friend until they discovered their mistake.

On the other hand, they have retentive memories—remember their old nests, and welcome their associates after long absence, tending them with assiduous care.

Apparently they have no sense of hearing, and either their sight is most defective or they are strangely at fault in discovering a food spot which may have been removed a few inches from its original position.

Lastly, whole tribes of ants keep slaves on whose exertions they depend for their existence.

The wood-louse and sundry beetles are the nest scavengers; but when the residence is changed the ants leave the despised drudge behind them.

Curious experiments were made with regard to their treatment of the dead, their conduct reflecting little credit to their sensibilities; but they knew how to distinguish between a defunct companion, whom they abandoned, and a set of intoxicated ants, at whom first they marvelled greatly, but who then were sheltered in the home. It is a matter of satisfaction that the inebriated, for whose state science and not moral weakness was responsible, recovered speedily and were none the worse for their dissipation.

⁂

Bristol has emulated the industry of the ants, and, desirous of extending the cause of provincial education, on October 10 last commenced the regular work of the first session of a new University College.

The report of their proceedings has recently been issued, and we have obligingly been put in possession of other details.

The establishment is intended to supply, for persons of both sexes above the ordinary school age, the means of continuing their studies in science, languages, and general literature—particularly to afford instruction in different branches of applied knowledge.

Strenuous efforts have been made not to allow educational energy to be weakened by competing interests, and thus the Bristol Medical School has become an affiliated institution.

The Bristol Evening Class Association, which has hitherto taught Drawing, French, and Animal Physiology, has withdrawn these subjects, on condition that similar classes should be opened by the Council of the University.

A permanent site for the College will be provided in Museum Road, Tyndall's Park: in the meantime temporary premises have been taken in Park Row, and in this house, fitted up with all requisite appliances, the business of the College, with the exception of Geology, is now being carried on.

Much as we should like to enlarge on the details with which we have been made acquainted, it is solely with the Chemical Department that we have to do.

The Professor is Dr. E. A. Letts, of Göttingen, and the Lecturer and Demonstrator is W. W. J. Nicol, M.A., of Edinburgh.

The Chemistry is carried on in the top storey of what we are told is a good big house. Right and left are the Professor's room and store room, opposite to which is a laboratory on one side and a lecture room on the other. This last will seat about ninety students. The laboratory has eighteen fully appointed benches, fitted with gas, water, and sink for each bench, a fume chamber and furnace.

The Professor was commissioned to purchase chemicals and apparatus in Germany within a limit of 300*l.* Bristol has judged wisely that a timid outlay is a synonym for delayed success, and we cannot but commend the liberality with which they have inaugurated their career.

Now it is well to know what is the nature of the chemical instruction offered.

The introductory lectures are divided into three sections. 1. Chemical Theory and Physical Chemistry. 2. The Description of the Non-Metallic Bodies. 3. Metals and Metallurgy.

The distinctive character of the course is more obvious in this third division. Alkali manufacture, electro-typing, plating and gilding; lime burning and cements; English, Belgian and Silesian methods of extracting zinc; the copper working of Swansea; the manufacture of steel and iron, Bessemer process and others; glass, pottery and porcelain; red and white lead and tinning, will be studied under their appropriate headings.

In the third sessional term there will be twenty lectures on

Organic Chemistry, and the Laboratory is opened daily for practical manipulation.

The manufacture of sugar, soap, and coal tar products will be carefully elucidated.

Gentlemen who devote themselves to original research must defray the cost of the materials employed unless they are fortunate enough to reap the benefit of some public grant.

The Worshipful the Clothworkers' Company of London has come forward in behalf of the men of Bristol and their undertaking.

They were not asked for a subscription, nor implored for aid; but of their own free will they said that they wished to do something in connection with the College in promoting the scientific teaching in the West of England of subjects connected with the manufacture of cloth.

Not for the first time has that honourable Company brought to remembrance the sentence, "Whose merchants were princes." The most malcontent and captious will not be willing to abridge an iota of the Clothworkers' civic festivities when they have proved themselves such noble stewards of the wealth committed to their charge.

The Company has agreed to give an annual sum of five hundred guineas for five years, with the stipulation that lectures on chemistry shall be provided in the neighbourhood, bearing on dyeing and the science involved in textile industries. This course will be delivered by Dr. Letts at Stroud, in rooms placed at his disposal by the locality. These lectures will probably begin in March or April, and we wish them and the College the success, educational and financial, which they deserve.

One chemical scholarship, value 25*l*., and tenable for one year, has been established. There are eight entries for the Laboratory, eleven for Chemistry in the day classes, while twenty-eight men and three women are attendants at the evening school. The total number of students attending the College in all subjects, including forty-six belonging to the Medical Department, is 367.

The text-books used in the courses to which reference has been made are Fownes' "Manual," Bloxam's "Chemistry," Fresenius, Bowman's "Practical Chemistry," and Dittman's "Chemical Analysis." The funds are susceptible of improvement, but not the spirit of the authorities or the students' zeal.

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Days of perplexity and trial are at hand for the retail pharmacist. The stores have snipped off a percentage from his sundries and patent medicines; a benevolent association strives to close his doors at an early evening hour; and now a fair city is about to rise where there shall be the least possible ill-health. "I have projected a city," said Dr. Richardson, "which shall show the lowest mortality. Our city, which may be named Hygeia, has the advantage of being a new foundation, but it is so built that existing cities might be largely modelled upon it."

The promised land has emerged from the shadows of a Social Science lecture, and here it is spread out before us on the table, mapped and planned, with broad streets and gardens, a mile of sea front, good drainage, and comfortable dwellings. The estate is called Courtlands, and it is situated close by Worthing.

Should the plan succeed, the druggist must seek out some other occupation, and take himself and his galenicals to a less favoured spot. Serious misgiving must be felt at this novel application of the motto, "Habenda ratio valetudinis."

⁂

A good paper is reported in American journalism, "On the Gases of Decay in some of their Sanitary Relations." This was the substance of a discourse read before the Public Health Association at Boston by Professor William H. Brewer. Many of these gases are injurious to health, for which in some cases we see a chemical reason, but "in a vast number we have the fact, while the process is yet secret." Carbonic acid, ammonia, marsh gas, sulphuretted hydrogen and nitrogen, are instanced. None of these produce diseases prominently associated with filth gases; they do not generate such diseases, nor is it proved that they are especial carriers of their germs, nor do they occur in our houses, save in rare instances, in sufficient quantities to be hurtful.

Not one of these gases of decay appears capable of producing the effects which sewer gas is known to produce. This last seldom gets into our houses in sufficient quantity to materially diminish the relative amount of oxygen, or to poison with carbonic acid; but it is eminently poisonous, and its physiological effects differ from those of the gases already named.

The gases which may exist in sewer gas are in too small quantities to be estimated by gas analysis. Professor von Bunsen failed to detect the gases which compose the smells of putrescent matter. The same may be said of the analysis of sewer gases. In specimens collected in 1869 and 1870, Dr. W. J. Russell found in the most impure air half a per cent. of carbonic acid; the rest, so far as analysis was concerned, was oxygen and nitrogen. "Another with a *foul smell* contained only ⅛th per cent. of carbonic acid. There were no combustible gases." Small traces of ammonia, often no sulphuretted hydrogen at all.

Now very bad effects follow the admission of such minute quantities into our houses that they can barely be perceived, and much less suffocate. The effects of sewer gas are neither uniform nor do they seem proportionate to the amount breathed, nor to its degree of concentration.

More than this, the results do not stop with the victim—since typhoid fever, once started, may extend its action and run its disastrous course. The fact leads us to the germ theory, which has its strong supporters and its opponents.

Various reasonings are given to show that sewer gas has an action of its own, the history of which is not yet understood, and that considered purely as a chemical question the facts connected with the subject are inexplicable. Adopting either the chemical or the germ theory, a system of better ventilation of the sewers is recommended. More speedy oxidation will be secured and comparatively non-poisonous gases formed, or the conditions will be impaired which favour the production of such organisms as may tend to propagate disease.

⁂

Here these notes on Pharmacy should end, but two letters have recently appeared, both of interest. The first is by Professor Attfield, who relates some reminiscences of Faraday which have not hitherto been published. He tells how the philosopher used to come to St. Bartholomew's with kindly words and child-like spirit, and how he encouraged the then young demonstrator with advice and praise.

He got to know about his researches on the carbon spectrum, and introduced him to the notice of several distinguished men.

The second communication is from Professor Redwood, being a statement and a reply on the whole subject of milk of sulphur.

After the appearance of his letter, the matter, in our opinion, may be withdrawn from further comment, except as regards judicial determinations. Even had space permitted, we should have refrained from reproducing an abstract of his remarks, lest we should injure the conclusive and connected reasoning with which the facts are here set forth. The clearness of the Professor's exposition is remarkable—and his argument in defence of others and himself appears unanswerable.

Professor Redwood may in some degree have been influenced in his remarks respecting the sale of the lime sulphur compound by his visits (which were far too rare) to another "grand old institution," near Covent Garden. We had the honour of being connected with a pharmacy which enjoyed the reputation of being typical of the high and dry—where the sale of sundries would not have paid the gas, and where quite the usual attention was paid to the selection of the drugs and the purity of the physic.

We had two classes of customers who were the supporters of the firm—the nobility and the very rich, and the decent poor. For five-and-twenty years, to our knowledge, neither would have any other article than that labelled in a large jar "Sulphur Præcipitatum," which was the ancient milk of sulphur, containing that quantity of lime sulphate which the wisdom of an ancient Pharmacopœia had prescribed.

We had no pretensions to being second-class pharmacists, yet we supplied without scruple that which the two extremes of the social community required. We have received, at present, no intelligence of any serious mortality in consequence among the little children of the neighbourhood; and we believe that the gentry, the church, the bar, and the profession generally, were quite content.

The Pharmaceutical Council.

FEBRUARY 7, 1877.

ALL the members were present, with the exception of Messrs. Brown (Manchester) and Stacey (London).

A lot was cast for the seven members of council who should retire in May, and the following names were drawn:—

Atherton
Bottle
Cracknell
Frazer
Greenish
Shaw
Williams

The following, who remained in by lot last year, now retire by rotation:—

Betty
Brown
Hampson
Hanbury
Rimmington
Robbins
Stacey

The following remain in office for another year:—

Atkins
Hills
Mackay
Owen
Sandford
Savage
Schacht

The registrar submitted his report for the year 1876, which showed the total number of names on the register on December 31, 1876, to be 13,178, or 98 less than a year previously. Of the total number 2,321 were pharmaceutical chemists.

The actual subscribing members of the Pharmaceutical Society were:—

	Dec. 31, 1876	Dec. 31, 1875	Increase	Decrease
Pharmaceutical Chemists ..	1,811	1,823	—	12
Chemists and Druggists ..	836	835	1	—
Associates in Business ..	706	576	130	—
Associates not in Business ..	814	884	—	70
Apprentices	934	852	82	—
	5,101	4,970	Net Increase 131	

The record of the examinations in 1876 presented the following results:—

	Candidates	Passed	Average of Rejections
Preliminary Examinations.. ..	1,054	607	42·4
Modified (London)	36	22	38·88
„ (Edinburgh)	15	5	66·6
Minor (London)	391	191	51·15
„ (Edinburgh)..	77	41	46·75
Major (London)	98	61	37·75
„ (Edinburgh)..	3	1	66·6

The secretary also presented a statement showing the amount of temporary assistance which had been given from the Benevolent Fund during the past year, and the recipients. From this it appeared that 225*l.* had been thus given to members and associates of the society and their widows and orphans (eighteen cases in all), while 245*l.* had been bestowed on chemists and druggists not connected with the society and their widows and orphans (twenty cases in all).

A proposition by the president (Mr. Williams) to hold a Benevolent Fund dinner this year brought up the subject of the *conversazione.* A dinner in aid of the Benevolent Fund was held ten years ago, and many wholesale firms had subscribed on that occasion an amount which entitled them to vote for ten years. That period having now elapsed, it was thought the time had come when another dinner of the same kind should take place. Mr. Shaw suggested that the *conversazione* should be abandoned, and the money which it cost paid over to the Benevolent Fund. Mr. Mackay also advocated that no *conversazione* should be held, and that the annual dinner should, this year, be in connection with the Benevolent Fund. Mr. Betty seemed to be of the same opinion; but the president, Mr. Atkins, Mr. Robbins and Mr. Frazer, spoke for the *conversazione*, and it was ultimately resolved to hold one at South Kensington if the Lords of the Committee of Council on Education would lend the museum, but the society will provide no refreshments. The refreshments last year cost 120*l.* It was also resolved to hold a dinner in May in aid of the Benevolent Fund, and committees were appointed to arrange for both these festivities. Mr. Owen wanted to admit ladies to the dinner, but the consideration of that idea was left to the committee in charge.

From the report of the Law and Parliamentary Committee it appeared that letters had been received from a chemist in the country, stating that he was being threatened with prosecution by a Medical Association for prescribing over the counter. The committee recommended that in this case the person prosecuted should be defended if, on inquiry, it were found to be a case of simple prescribing over the counter. Messrs. Greenish, Hampson, Hanbury, Hills, Betty, and Sandford had been appointed the sub-committee to consider what amendments were desirable to be made in the Pharmacy Acts should an opportunity occur.

The committee also brought forward a batch of correspondence which had passed between the secretary of the Trade Association and the secretary of the Pharmaceutical Society. Part of this correspondence referred to certain cases of alleged infringements of the Pharmacy Act, but the chief point raised was this:—Mr. Haydon wrote on November 27, 1876—

> I am frequently receiving letters from various parts of the country stating that unregistered men are openly dealing in scheduled poisons. If I collect the necessary evidence to proceed in such cases, would the council of your society instruct their solicitor to go forward and sue for the penalties?

This inquiry was placed before the Pharmaceutical Council at its meeting on December 6, and on December 8 Mr. Bremridge replied—

> That any evidence of infringements of the provisions of the Pharmacy Act, 1868, forwarded to me, will be submitted to the council.

The reply having been considered by the Law Committee of the Trade Association, Mr. Haydon wrote, according to instructions, on January 15, 1877—

> The final sentence in your letter of December 8, 1876, is not considered by the members of the Law Committee by any means a satisfactory reply to this question.
>
> I have already collected a further amount of evidence in numbers of large towns, which evidence is waiting a satisfactory reply to the question contained in my letter, previously referred to.

Mr. Bremridge wrote on January 16—

> Allow me to suggest the desirability of your sending me the particulars of the cases of infringement you refer to, as I believe it is not probable the council will consent to forego the consideration of, and judgment upon, any case you may have to report.

To this Mr. Haydon replied on January 17—

> My instructions forbid my complying with your suggestion that I should forward you the particulars of other cases of infringements of the Pharmacy Act, 1868, of which I have collected evidence, until the council of your society has given the Law Committee of this association a satisfactory reply to the question contained in my letter of November 27, 1876, referred to in my letter of the 15th inst.

After considering this correspondence Mr. BOTTLE moved:—

> That the registrar be directed to communicate with the secretary of the Chemists' and Druggists' Trade Association to the following effect: That the Council of the Pharmaceutical Society of Great Britain will not instruct any solicitor to go forward and sue for penalties under the Pharmacy Act, 1868, in cases of alleged infringement of the provisions of that Act, until evidence in support of each charge of violation of the statute has been considered and found satisfactory by the Council, when the registrar will be duly authorised to initiate proceedings for the recovery of the penalties incurred, in accordance with the provisions of the Pharmacy Act.

In speaking on the subject, he said it seemed to him that it would be unwise, impolitic, and illegal for the council to surrender their powers, as they were asked to do by the secretary of the Trade Association. When cases were investigated it was found that some had been brought forward out of personal pique, sometimes illegal sales had been made out of pure ignorance, though sometimes in direct violation of the law. He was very desirous of seeing the Trade Association working hand in hand with the Pharmaceutical Society, but he considered that the council had no authority practically to concede to the Birmingham Association the right of prosecution, but each case should stand on its merits.

Mr. SANDFORD seconded the motion. He said the council had no interest in forbearing to prosecute when illegal practices had been proved, but it was absurd to expect them to initiate legal proceedings in cases they had not considered. He thought the reply which had been sent to the secretary of the Trade Association was perfectly definite.

Mr. **Mackay** supported this view of the question with some warmth. The members were sent to that council board not as a set of stuck-up images, but as men having a certain portion of brains, and with some capacity of using them. The idea that the members of the council, occupying the position they did, as representing the Pharmaceutical Society of Great Britain, should, under requirement of a recently formed association, be so far lost to themselves as to say unconditionally that they would prosecute in cases respecting which the council had as yet received no information was absurd, and if acceded to the sooner they ceased to sit there the better.

Mr. **Frazer** said it was asking the council to do for the Law Committee of the Trade Association what it had never done for its own Law Committee.

Mr. **Hampson** thought some misapprehension had occurred. The association only wanted an assurance that if it collected evidence this would not be laid aside, and he believed an answer to that effect was all that was required.

The **President** remarked that he thought such a reply had already been given.

Mr. **Shaw**, as a member of the Executive of the Trade Association, expressed his astonishment at the language used in this correspondence, which he thought was a mistake.

The motion was then carried unanimously.

The council did not agree to the committee's proposal with regard to the defence of a chemist threatened with prosecution by a Medical Defence Association.

PHARMACEUTICAL SOCIETY OF IRELAND.

THE monthly meeting of the council of the above society was held at the College of Physicians, Kildare Street, Dublin, on Wednesday, the 7th inst., Sir D. J. Corrigan, president, in the chair. The following members were present: —Dr. A. Smith (vice-president), Mr. William Allen, Dr. Collins, Dr. Frazer, Mr. J. Goodwin, Mr. William Hayes, Mr. E. M. Hodgson, Mr. J. T. Holmes, Dr. R. Macnamara, Sir G. B. Owens (ex-Lord Mayor), Mr. Payne (Belfast), Dr. Emerson Reynolds, Professor Tichborne, and Dr. Whitaker (Belfast).

On the motion of Mr. **Holmes**, seconded by Mr. **Hayes**, it was resolved:—

> That special examinations be held in March and September for candidates who have been previously rejected, and who are entitled to be re-examined up to October 1, 1877.

March 28 and September 26 were fixed for the examinations.

Dr. **Reynolds** proposed and Dr. **Frazer** seconded the following motion:—

> (1) That each candidate at the Society's Final Examination shall be examined in a well-appointed chemical laboratory for not less than two hours in the preparation of pharmaceutical compounds, in elementary qualitative analysis, and in the volumetric processes of the British Pharmacopœia.
>
> (2) That application be made for permission to use one of the Dublin laboratories for the examination in Practical Chemistry, the council undertaking to defray the cost of materials actually used, and of apparatus broken by candidates.
>
> (3) That each candidate shall be required to pay the society for any apparatus he may injure or break during his examination.

Dr. **Reynolds** explained that the object of his resolution was to insure a thoroughly practical knowledge of pharmaceutical chemistry, and that the society should send men into the world who should be what their name implied, viz., pharmaceutical chemists.

Professor **Tichborne** objected to the examinations in the different subjects being conducted in different places, and was of opinion that the society could furnish facilities for a thorough examination.

A very lengthy discussion took place, nearly all the members taking part. A division was taken, when the motion was lost by a majority of one. The president did not vote.

At the suggestion of the president it was resolved—

> To form a card chart for the use of pharmaceutical chemists.

The following were appointed a committee to prepare a chart for the approval of the council:—Mr. William Allen, Mr. J. T. Holmes, Mr. Payne, and Dr. Whitaker.

Proposed by Mr. **Payne**, seconded by Sir G. B. **Owens**:—

> That the second regulation now in force relating to candidates presenting themselves for their pharmaceutical examination be altered to read as follows:—
>
> Candidates must forward to the registrar a certificate from a Pharmaceutical chemist or apothecary of having been practically engaged, for at least two years, compounding and dispensing under the instruction of a pharmaceutical chemist or apothecary in a legally constituted pharmacy.

After some discussion the motion was put to the vote, and was declared lost.

A letter was read from Mr. Bourke, Under-Secretary, acknowledging the receipt of additional bye-laws for confirmation by the Privy Council.

A letter was written by the president asking that the matter might be brought before the notice of the Privy Council at the first opportunity, as the delay was causing the society some inconvenience.

Members' Evening Meeting.

The first evening meeting of this society was held on Thursday, February 8, at the King and Queen's College of Physicians. The chair was taken at 8 o'clock by Dr. Aquilla Smith, vice-president of the society. There were twenty-seven members present.

The chairman, in an introductory speech, made an eulogium upon the late Michael Donovan, who had been so honourably associated with the pharmacy of Ireland in years past. He said that here was a bright example of an apothecary who had devoted his life to the study of pharmaceutical chemistry.

The chairman in the course of his speech suggested two important questions for solution to the members of this society.

1st. A good method was required for dissolving salicylic acid (let us say 10 grains to the ounce) without interfering with its chemical and antiseptic properties.

2nd. A good formula was required for an aconite plaster.

The first paper was by Mr. Harry Napier Draper, F.C.S., M.R.I.A., on

The Solubility of Ether in Aqueous Hydrochloric Acid.

The author said that, except a statement in Gmelin's handbook that "ether likewise dissolves in aqueous hydrochloric acid without producing chloride of ether," he had not found any reference to the fact in any of the modern works on chemistry.

It would be convenient, first, to note the solubility of ether in other liquids. The author had made the following observations:—

In saturated solution of calcium chloride, ether is apparently quite insoluble. Distilled water at 11° C. dissolves in 100 volumes 10 volumes of ether. This solubility in water is quite in accordance with results hitherto obtained, but it is customary to state the converse case, *i.e.*, the solubility of water in ether as 1 in 10, which is much greater than it really is.

As the mean result of five experiments (Mr. Draper said), I have found that 100 volumes of ether at 12° C. dissolve 2 volumes of water. The error has obviously arisen in the use of ether not absolutely free from alcohol.

The ether employed in my experiments was found to have at 14° C. the density of ·725, but there is sufficient experimental difficulty in determining the weight of so volatile and expansible a fluid to prevent my attaching any considerable value to this figure. The ether was, however, shaken with finely divided acetate of rosaniline, and as this did not communicate the least tint to it, it was concluded that it did not contain alcohol. For water it was tested by the immersion of bibulous paper saturated with alcoholic cobalt chloride, and then dried. This remained blue after 24 hours' contact.*

The aqueous hydrochloric acid was the strongest that I could conveniently work with. It had a sp. gr. of 1·196 at 14°, and, examined volumetrically, was found to contain 38·52 per cent. by weight real acid. Even at this strength it emits dense fumes when exposed to the air. When equal volumes of the ether and hydrochloric acid just described are mixed together, immediate solution takes place, the temperature of the mixture at the same time rising considerably. There is also contraction of volume. When 50 volumes of ether and

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* Much of the "anhydrous" ether of commerce reddens cobalt paper at once, and is itself very soon tinged by the rosaniline salt.

50 volumes of acid are employed the resulting solution, when reduced to the temperature which the liquids had before mixing, measures but 95 volumes, and at 14° C. has a sp. gr. of 1·010. The solution flows like a thin oil, fumes in the air, is perfectly transparent, and remains so, whether cooled to 0° or heated to 38°. But hydrochloric acid of 38·52 per cent. will dissolve much more than its own volume of anhydrous ether. At a very early stage of my experiments it became evident that the quantity which it is capable of taking up bears an inverse ratio to the temperature, and that the volume of ether dissolved is at the ordinary atmospheric pressure constant for any given temperature. The experiments were made with a closely-stoppered graduated tube, in which was added to a known volume of the acid a few volumes more ether than it was able to dissolve at the lowest temperature employed. The mixture was then cooled down to the required temperature, and kept at this for an hour, during which time the tube was frequently briskly shaken, and the volume of the ether dissolved was then noted. In this way were obtained the results stated in the following table, in which the second and fourth columns give the number of volumes of ether dissolved by 100 volumes of hydrochloric acid (sp. gr. 1·196) at the corresponding temperature in the first and third columns:—

Temperature Centigrade	Volumes of Ether Dissolved	Temperature Centigrade	Volumes of Ether Dissolved
− 16°	185·0	16°	162·5
0°	177·5	21°	157·5
+ 8°	172·5	27°	150·0
9°	170·0	32°	142·5
10°	167·0	38°	135·0

Thus, while at 0° C. 100 volumes of this acid dissolve 177·5 volumes ether, at 38° C. 135 volumes only are dissolved. Or, by weight, 100 parts hydrochloric acid dissolve at the lower temperature 107·5 parts ether, and at the higher but 81·8 parts. So that the capacity of the hydrochloric acid of this strength for ether is nearly one-third (31·4 per cent.) greater at the freezing point of water than at 38° C. (100° Fahr.). I cannot recall an instance of so great a difference between the relation of solubility to temperature in the case of any two other fluids. If the solution, saturated at any given temperature, be heated to a temperature higher than this, it at once becomes turbid from the separation of ether, and, when the liquid is contained in a thin tube, the contact of a warm hand is sufficient to produce in a few seconds complete opacity in a solution which, at the temperature of the laboratory, was quite transparent. If a sealed tube containing the ether solution and excess of ether, first cooled—say in melting ice—then shaken, and the volume of the unabsorbed ether noted, be suspended in a warm room, ether continues to separate in very minute bubbles until the liquid has attained the temperature of the surrounding air. When the tube is once more cooled to 0° without agitation, the liberated ether, being so much lighter than the solution, is not taken up again even after forty-eight hours, but on the tube being briskly shaken it is at once dissolved. The increase of temperature at the moment of solution is considerable, being, with 10 c.c. of acid and 17 c.c. of ether, from 11° to 35° (*i.e.*, 22·5° C.). No chemical combination takes place: the ether is simply dissolved by the acid, and can be separated by simple dilution with water. Thus five volumes of a solution (= three volumes ether) gave, on addition of five volumes of water, two volumes ether. Two experiments were made in this direction, and in each case 17 c.c. of ether were obtained from a solution, which—calculating from the temperature at which it was saturated—contained 19 c.c.

The solvent power of aqueous hydrochloric acid for ether is directly proportional to the strength of the acid. Thus the acid of 38·52 per cent., which I have used in my experiments, dissolves at 10° C. in 100 volumes 167 volumes of ether, while the acid of the British Pharmacopœia, containing 31·8 per cent. HCl, dissolves, at the same temperature, but 125 volumes. It should be noted that absolute ether dissolves hydrochloric acid from the aqueous acid. The acid of 38·52 per cent. was agitated for some time with excess of ether, the temperature being 12° C. The supernatant ether was then removed with a pipette, and its contained chlorine determined by an alcoholic solution of silver nitrate. It was found to contain chlorine equal to 2·400 per cent. of real hydrochloric acid.

A short discussion took place upon Mr. Draper's paper.

A New Variety of Catechu.

Dr. Walter Smith brought forward for exhibition a specimen of pale catechu, which differed very much in appearance from ordinary specimens of *Catechu pallidum* of the British Pharmacopœia. Large quantities of it had been lately imported into the London markets. It was very porous, light in colour, and in small rectangular prisms about half an inch long. At first it looked like some of those specimens which are occasionally adulterated with starch, but on analysis it was found to be quite free from that substance: but it was so devoid of astringent properties that it was a serious question how far it could be substituted for the Pharmacopœial drug. He gave the analysis of the specimen and also of the ordinary pale catechu of commerce:—

	B.P. Catechu.	New Variety.
Mixture	13·94 ..	6·18
Insoluble matter	10·63 ..	59·48
Tannin	25·96 ..	9·71

In the discussion that followed Professor Tichborne suggested that as catechu tannin became insoluble on exposure to air (*vide* Watts's "Chemistry," vol. i., p. 816), the great difference observed in these catechus might be due to the mode of preparation, as the insoluble portion, although differing so much in amount, was still of the same microscopic character, according to Dr. Smith, as that found in the ordinary commercial specimens.

A member wished to know how the sale of such an article would be viewed in connection with the Adulteration Act. No one seemed anxious to give an opinion on this knotty point.

Mr. Tichborne then read a paper

On Salicylate of Atropia and its Application to Pharmacy.

It ran as follows:—

It is well known how difficult it is sometimes in the most simple preparations to get one that shall meet all the requirements of the physician, the surgeon, and the pharmaceutist. Thus, whilst a particular preparation may just hit off the views of the prescriber, it may be devoid of keeping properties, a point of considerable importance in these days, when the dispenser has neither the inclination or time to make his own preparations.

A striking instance of this clashing of requirements is to be observed in the solutions of atropia contained in the British Pharmacopœia. There are two of them, both of the same strength (viz., 4 grains to the fluid ounce), as they are intended for the same use in ophthalmic surgery.

The first (liquor atropiæ) is a solution of the alkaloid itself in a mixture of spirit and water, the proportions being one-eighth rectified spirit to seven-eighths water. Such a solution keeps fairly, but produces great irritation of the eye, particularly in those cases where operations have been performed, or a chronic sensibility attending many abnormal conditions of the organs. The liquor atropiæ is, therefore, inadmissable in such cases. We presume it is from this point of view that the rather absurd plan of introducing a second solution, corresponding in almost all its therapeutical effects to the first, is introduced. This solution is the liquor atropiæ sulphatis, which, although free from the objection of its being irritating, has another one equally objectionable, for it will not keep. A fungus is developed at the expense of the alkaloid; the solution becomes thick, muddy, and loses strength. Perhaps the best remedy hitherto proposed was the one suggested in Dr. W. Smith's book, but from some cause or the other not generally adopted. The suggestion was that the solution should be made with camphor water.

In conducting some experiments some years ago on salicylic acid, it struck me at the time that the salicylates of some of the alkaloids might be used with a considerable amount of advantage, as they ought to possess inherent antiseptic properties. I therefore considered that salicylate of atropia would be an appropriate salt to operate upon, if such a salt could be formed. If atropia is mixed with salicylic acid in equivalent proportions a soft soluble mass is obtained that cannot well be crystallised. Although accidentally a semi-crystalline mass was once obtained by acting upon a sample of foreign atropia, these results could never be repeated: it is probable that the crystallisation was due to the presence of some impurity. My experiments were afterwards made with a beautiful crystalline specimen made by Messrs. Hopkins & Williams, of London. Atropia and crystallised salicylic acid were mixed in equivalent proportions, assuming that the last-named acid was a monobasic acid, and the alkaloid acted as a monad. If atropia be warmed with an excess of salicylic acid and a moderate quantity of water, and then allowed to cool, the excess of acid crystallises only, and on evaporating down the mother liquor 2·7 parts of atropia were found to give 4·04 of colloidal salicylate of atropia, which is ·05 over the weight required by theory.

If the atropia and salicylic acid be mixed in equivalent proportions and water added, both the substances dissolve after some time, although the ingredients are both comparatively insoluble in cold water. The proportions used were, atropia 289, salicylic acid 138 grains. If the aqueous solution be evaporated, a colloidal mass will be obtained difficult to powder. An attempt was made to crystallise the salt from ether, but without success. Alcohol was also tried with a like result. This difficulty as regards crystallisation is characteristic of the atropia salts. The actual solubility of this salt was determined at a temperature of 15° C. In two determinations it gave, as regards saturated solutions—

1st determination	4·76 per cent. salts.
2nd "	4·69 "

Therefore, if we call this 4·7 per cent., and as $\frac{95\cdot3}{4\cdot7} = 20\cdot2$, we may say that practically salicylate of atropia is soluble in 20 parts of cold water. Therefore it is evident that it is easy to prepare a solution of salicylate of atropia which shall represent the solutions of atropia of the Pharmacopœia by dissolving atropia and crystallised salicylic acid in the following proportions:—

Atropia	2·7 grains
Salicylic acid (crystallised)	1·3 "
Water	1 ounce

Mix, and allow it to stand until it is dissolved.

With care, however, the salicylate of atropia may be obtained in the solid form, and then resembles the sulphate in appearance. In the proportions given above the acid is slightly in excess of that required by theory. It is found desirable to have a slightly acidulated solution, or, under any circumstances, not an alkaline one, because a salicylate does not act as an antiseptic in the presence of an excess of alkaloid, or what may be called an alkaline solution. A solution made in the proportions given above will keep for an indefinite time. I have placed on the table a sample of the solution of salicylate of atropia, four grains to the ounce. It was made on August 4, 1876, so that it is now over six months old, and there is not the slightest sign of any fungoid growth. As regards the possibility of its producing irritating effects, I placed some of this solution in the hands of friends who are in the foremost ranks as regards ophthalmic surgery. They have, with their usual courtesy, tried this preparation. I append some of their opinions, so far as they bear on the keeping and non-irritating properties of this solution:—

Dr. A. Jacob writes:—"When I received your salicylate I placed it side by side with a sulphate solution in my case of collyria, and I have used them comparatively in a great number of cases. I find now that, though exposed to the air, it contains none of the fungoid growth common in atropine solutions, and its mydriatic properties, as satisfactory as the first day. It is, unlike the Pharmacopœial liq. atropiæ, quite unirritating. It does not produce the conjunctival irritation which prevents in some cases the unlimited use of the ordinary solutions."

The rest of the paper was taken up with reports from Dr. Fitzgerald, Surgeon-Oculist in Ordinary to the Queen in Ireland, and Dr. Swanzy, both as regards its keeping properties and non-irritating power.

Owing to the supposed antiseptic properties of the acids the benzoate and borate of atropia had been made, but solutions of these salts proved a failure, fungus appearing after one to two, months.

A vote of thanks to the authors having been proposed, the chairman suggested the advisability of abandoning these formal votes, as they wasted much time. The suggestion was adopted by the meeting.

LIVERPOOL CHEMISTS' ASSOCIATION.

The members of this association held their thirteenth *conversazione* on the 18th ult., at the Royal Institution, Colquitt Street. There was a large attendance, more than four hundred members and visitors (principally ladies) being present. A very interesting entertainment was provided, and it has been pronounced the most successful ever held.

After the reception of the visitors by the president and council, half an hour was devoted to a musical entertainment, which was ably rendered by some volunteers, under the direction of Mr. John Hodgson. After this there was a promenade in the Museum, where numerous objects of scientific interest were exhibited. Several members of the Microscopical Society of Liverpool exhibited objects. Mr. Albert H. Samuel had charge of an exhibition of electrical instruments and appliances, and he ably explained the various experiments performed. Mr. G. F. Chantrell exhibited the patent electric pen; Mr. Davies, F.C.S., the spectrum of gallium; Mr. C. H. Stearn, an improved Sprengel pump, invented by himself, to which was attached a radiometer; Mr. J. T. Armstrong, F.C.S., a model geyser, and experiments representing ground air currents; Dr. Symes, a collection of specimens of toughened glass, the manufacture of which he popularly explained; Mr. Anden practically illustrated the art of chromolithography; Mr. A. H. Mason, F.C.S., vortex rings; Messrs. Symes & Co., chemical apparatus, &c.; Messrs. Doulton & Co., art pottery; Messrs. Elkington & Co., works of art in electro-plate and bronze; Messrs. Abraham & Co., scientific instruments and electrical appliances; Messrs. Brown, Bell & Barnes, photographic novelties; Messrs. Chadburn & Son, scientific instruments, graphoscopes, stereoscopes, &c.; Messrs. Austin & Co., magnetic indicators, &c.; Messrs. Fearnall & Co., model of the Minerva printing machine.

At nine o'clock the chair was taken in the lecture hall by the president, Mr. Alfred H. Mason, F.C.S., who welcomed the guests in the name of the council, and thanked those gentlemen who were assisting for their liberal and voluntary aid. He spoke of the objects of the association and the work it had accomplished. He thought Liverpool was behind other large towns in her provision of such entertainments, and the large attendance present assured him that if the different learned societies of the town combined, and a substantial annual grant were made from the corporate funds, a highly scientific *conversazione* might be held in some much larger building, which would be looked forward to by many by whom it would be appreciated. The president then introduced the lecturer, Mr. W. E. Bickerdike, F.C.S., of Church, who delivered a popular chemical lecture "On the Atmosphere," illustrated by numerous experiments, of which the following is a syllabus:—

Introduction—Nature of the Atmosphere—An Ocean of Gas—Coloured Gases—Weight and Elasticity of the Atmosphere—Balloon Ascent—Principle of the Air Pumps—Barometer—Air, a vehicle for Sound—Organ Pipe with Hydrogen—Formation of Cloud and Dew—Chemistry of the Atmosphere—Composition of Air—Nitrogen Gas and its Properties—Oxygen Gas—Combustion—Burning of Metals—Spontaneous Combustion—Nature of Respiration—Carbonic Acid Gas—Vitiated Air—Trade Winds—Breathing of Plants—Ventilation—Healthy Dwellings—Conclusion.

The experiments all proved most successful, and an admirable lecture was delivered, after which Mr. E. Davies, F.C.S., moved, and Dr. Nevin seconded, a hearty vote of thanks to the lecturer, which was carried with great acclamation. During the reception and promenade the band of the 1st L. A. V. performed a selection of popular music.

The eighth general meeting was held at the Royal Institution on the 1st inst., the president, Mr. A. H. Mason, F.C.S., in the chair.

Mr. Thomas Garside, F.C.S., read a "Report on a New Method for the Examination of Mixtures of Methylic and Ethylic Alcohols."

The method was suggested in the "Comp. Rend," and Mr. Garside had applied it successfully for the detection of methylated spirit in wood naphtha. He believed it was an adulteration practised to some considerable extent, and he had found that an admixture of 10 per cent. rendered wood naphtha quite unfit for the purposes for which it was often required. The process was practically demonstrated to the audience. A discussion followed, in which Messrs. Davis, Abraham, the president, and others took part, and an unanimous vote of thanks closed the proceedings.

At the next meeting, on the 15th inst. (to-day), a paper will be read by the hon. secretary, "A Preliminary Report upon the Results of some Comparative Chemical Analyses and their Ultimate Bearings."

NOTTINGHAM AND NOTTS CHEMISTS' ASSOCIATION.

The annual supper of the members of this association was held at the Flying Horse Hotel, on Wednesday, January 24, when nearly forty gentlemen sat down to an excellent repast, to which they did ample justice. The chair was occupied by the President of the association, Mr. J. H. Atherton, F.C.S., and the vice-chair by Mr. J. Lewis.

After the usual loyal toasts had been duly honoured,

Mr. R. FitzHugh, F.C.S., proposed "Success to the Pharmaceutical Society," and coupled with it the name of Mr. Atherton, one of the Council of that Society, who suitably responded.

The toast of the evening, "Success to the Nottingham and Notts Chemists' Association," was then proposed in complimentary terms by Mr. H. Major, B.A., B.Sc., and it is almost needless to say it was heartily drunk.

The next toast on the list was "The President, Vice-President, and Council," which was given by Mr. G. Shepperley, and responded to by the President.

Mr. J. Lomas proposed "The Treasurer," to which Mr. J. Rayner responded.

"The Health of the Hon. Secretary" was next given by Mr. C. A. Bolton, and acknowledged by Mr. R. Jackson.

The remaining toasts were "The Teachers of the Science Classes," "The Vice-Chairman," "The Visitors," and "The Ladies."

In replying to the toast of "The Visitors," Mr. J. F. Clarke, of Lincoln, whose name was coupled with it, promised a donation of 10*l.* to the funds of the association.

A good selection of songs and duets by efficient vocalists, accompanied by an excellent pianist, agreeably diversified the proceedings, and a most pleasant evening was concluded by singing the National Anthem.

APPROXIMATE QUANTITATIVE TESTS.

By J. Barker Smith.

Second Paper.

II.—Morphia.

The 50 c.c. of acidulated permanganate solution used in the tannin estimation were found decolourised by 4 c.c. of a solution of crystallised commercially pure morphia, containing 1 gramme per litre and neutralised by sulphuric acid. The morphia standard thus becomes ·004 gramme.

Equal volume dilution often gives a more accurate reading, but decimal dilution or concentration, as might be expected where chemical reactions and physical circumstances of solution are not taken into account, give abnormal indications. Thus a 1 per cent. solution might determine ·006 gramme as the standard, a one per ten thousand solution ·0036 gramme.

Liquores Morphiæ.—Estimation of a solution of unknown strength, not containing substances interfering with result.

Pure rectified spirit, acetic acid, hydrochloric acid, narcotine, and ammonia, do not sensibly affect the test. The morphia solution, as well as the permanganate, should be acid. If the 50 c.c. of permanganate be decolourised by two or three drops of the solution, the latter probably contains more than 5 per cent. of morphia, or by half a cubic centimetre, 2½ per cent. If nearly a cubic centimetre be required, the solution approximates to the Pharmacopœia strength. The titration being thus roughly determined, the experiment is completed by diluting to normal standard and estimating. The acetate and hydrochloric radicals not interfering with test, in solutions of the salts of morphia, as experiments on different samples showed, the absolute morphia might be calculated from the formulæ, but our standard sample no doubt contains two molecules of water, and such accuracy has not been attempted.

Opium.—I hoped when I first noticed the reaction of morphia and permanganate some years ago that it would afford a rapid method of estimating the value of a sample of opium, and having started with a lower standard than the present (·0033 acetate) encouragement for several experiments was given. However, it was found that other constituents of opium affected the test, and the permanganate would indicate three times more morphia than could be obtained. It may be, under particular circumstances, correct and quick results will be arrived at, as the mother liquor indicates the quantity of morphia separated tolerably well, but the old difficulties of extraction and precipitation remain. The utility of the permanganate test when applied to opium will be in showing, when the marc is exhausted, the quality of the morphia obtained by different methods, the loss of morphia by decomposition during some processes, the *instantaneous valuation* of the rinsings and humid precipitates, &c. The official tinctures of the following specimens of opium showed a decolourising power equivalent to 16 to 20 per cent., calculated on the crude drug, 13½ c.c. being acidulated and diluted to 100 c.c.

Persian.—More than 50 per cent. extracted in making official tincture; glucose-equivalent, 3 per cent.; Pharmacopœia process gives 8 per cent. of impure morphia. The official tincture, by supplementary process, hereafter described, indicates an opium containing a percentage of narcotine 8½ and morphia 7½.

Tincture of a light reddish-brown colour, odour peculiar [illegible] distinctive. A few drops boiled with dilute sulphuric acid not form a reddish solution.

East Indian.—Part of small brick, almost jet black in colour, fracture conchoidal,* specimen old, powder coffee-coloured, no glucose-equivalent apparent. Official tincture, by supplementary process, indicates an opium containing a percentage of narcotine 7½, impure morphia 3. (Average of two experiments).

Tincture very dark in colour. A few drops boiled with dilute sulphuric acid form an intense red poppy-coloured solution. It was sought to separate the proximate principle which developed the red colour, as it appeared to be one of the ingredients affecting the permanganate test.

Acetate of lead, calcium hydrate, potassium subcarbonate sodium bicarbonate, failed to alter the decolourising power to remove much of the colour principle

Wood charcoal removed some of the colour from aqueous acid solutions; acids restore the red colour removed by alkalies.

Decolourising power diminishes on exposure to air.

Turkey.—Pharmacopœia process gives 9½ per cent. of impure morphia. Average of two supplementary processes on official tincture—narcotine 4·6, morphia 7.

Tincture develops the red poppy colour with sulphuric acid. It would be interesting to know whether the principles exhibiting this reaction (rhæadine, &c.) are normal constituents of properly collected opium, or whether they are due to petals added. An eyewitness informs me that in India a red poppy is cultivated with the opium poppy.

Supplementary Tests.—Those tried by the method of alcoholic decoction, with permanganate estimation, precipitation by sodium bicarbonate, and re-estimation, were not successful in giving satisfactory results in an hour.

Method followed essentially different from Guilliermond's only by the removal of the narcotine and morphia separately, and by the application of the permanganate where necessary.

Two examples will be sufficient to illustrate the modifications.

(*a*) *Tinctura Opii, P.B.*—Add to 100 c.c. (7·5 grammes opium) of the tincture 2 c.c. of strong ammonia, rinse out the measure with a few cubic centimetres of water, mix thoroughly, and set aside for six hours (about). If the temperature should much exceed 60° Fahr., the precipitating glass should be tied over with parchment paper. The tincture may now be decanted or filtered from the crystals of narcotine, and set aside in an uncovered glass from 5 to 12 hours for the morphia to precipitate. If a little attention be given to the precipitation, in many samples, nearly the whole of the narcotine may be separated before the morphia begins to deposit its *pulverulent* crystals. In the case of Persian opium, the narcotine, when collected on a filter and nearly dried, will be as brilliant and white as benzoic acid, and may be separated in a single film.

(*b*) *Opium.*—Menstruum, equal parts of spirit and water. Ten grammes of opium, macerated 24 hours, carefully percolated to 130 c.c., 3 c.c. of strong ammonia added, precipitating glass tied over for the night (9 hours), clear tincture decanted from the narcotine, and set aside in an uncovered precipitating glass for a few hours, the washings of the narcotine, if in small amount, being added, when the disappearance of the voluminous turbidity will be followed by the precipitation of the morphia. The permanganate test will assign a value to further precipitations, the other decolourising principles being soluble and closely associated with the deep amber-coloured principle left in a tincture which has been subjected to the acetate of lead treatment for the glucose estimation.

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* Specimen belonged to the late George Webster, M.D., and was labelled Dr. Adams, Calcutta.

CURIOSITIES FROM THE "LONDON DIRECTORY."

THE striking classification of Surnames which we print below, all extracted from the "London Directory," is so singular that it can hardly fail to attract attention. The compilation is by a gentleman well known to many of our readers, whose active mind was thus occupied in spare hours during the dull days and incessant rains about Christmas holiday-time. We believe groups of names, similarly collected, have been previously published; but although this list is not put forward as by any means complete—the compiler being too busy a man to attempt it— we have never seen one so cleverly arranged.

Physick
Mortar
Pestall
Scales
Weights
Measures
Funnel
Still
Pill
Box
Twine
Stamp
Vial
Bottle
Cork
Twine
Tow

Hay
Bee
See
Dee
Gee
Hache
High
Jay
Kay
Ell
Emm
Henn
Hoe
Hess
Tee
Hengh

Arms
Back
Beard
Bone
Brain
Cheek
Chin
Finger
Foot
Hand
Head
Knee
Kneebone
Leg
Neck
Skull
Toe
Tongue
Tooth
Whisker
Wing
Feathers

Scott
Lott

Matts
Rugg

Meek
Milde

Merry
Wise

Old
New

Luck
Fortune

Adam
Eve

Hole
Corner

Feast
Fast

Single
Double

Skin
Bone

Brush
Comb

Moon
Star

Sleep
Wake

Gum
Glue

Hope
Fear

Cat
Mew

Hake
Pain

Bond
Free

Gill
Gallon

Free
Easy

Board
Lodge

Ebbs
Flood

Gates
Stiles

Stirrup
Bridle

Rate
Tax

Stock
Stone

Story
Lye

Friend
Need

Brittle
Crisp

Noon
Knight

Rest
Peace

Shall
Will

Good
Bye

Sack
Bagg

Step
Stone

Blow
Breeze
Gale

Body
Soul

Pluck
Courage

Deer
Stalker

Reader
Writer

Ring
Bell

Rough
Ready

Sowman
Reap

Float
Dive

Paddle
Row

Life
Death

Sweet
Bitter

Wild
Tame

Thick
Thin

Will
Deed

Profitt
Gain

Law
Physick

Church
State

Few
Farr

Batchelor
Widdows

Faith
Hope
Charity

Coles
Coake
Wood

Pride
Folley
Reason

Gaze
Stares
Looker

Dodge
Gammon
Swindle

Damm
Kuss
Swears

Ferry
Row
Scully

Spring
Summer
Winter

Greedy
Swallow
Bolt

Rust
Must
Mould

Barber
Shave
Wigg

Angel
Fairy
Saint

Hunt
Fish
Shute

Silk
Cotton
Braid

Stable
Manger
Loft

Hack
Cut
Whittle

Fountain
Spring
Wells

Tippler
Lusher
Boosey

Day
Knight
Weekes

Lone
Poore
Barefoot

Castle
Towers
Fort

Cope
Cowle
Hood

Neat
Trim
Tidy

Frith
Firth
Forth

Smallman
Lowman
Longman
Richman

Court
Camp
Church
Mart

Bush
Thorn
Hedge
Underwood
Furze
Heather

Penn
Quill
Nibb

East
West
North
South

Whimper
Smirk
Smiles
Whinney

Fall
Flag
Droop
Dye

Grand
Noble
Gallant
Gentle

Fry
Brew
Bake
Cook

Gamble
Quarrel
Snagge
Fuggle

Famin
Feaver
Coffin
Grave

End
Side
Topp
Botham

Hurry
Flurry
Funck
Flutter

Cake
Crum
Crust
Rolls

Dore
Bolt
Lock
Key

January
March
May
August

Hull
Lee
Severn
Tyne

Lent
Easter
Christmas
Midwinter

Pipe
Beer
Gin
Waters

Peck
Gill
Bushell
Pottle

Hill
Mountain
Rock
Peak

Kitchen
Garrett
Sellers
Hall
Stair

Pett
Duck
Darling
Dear
Love

Prance
Dance
Jump
Spring
Bound

Barrell
Tapp
Firkins
Tubbs
Caskie

Hale
Harty
Valiant
Strong
Stiff

Pearl
Diamond
Gem
Jewel
Golding

Musk
Lavender
Otto
Rose
Violet

Lane
Street
Place
Alley
Roads

Cotton
Twine
Twist
Line
List

Stocks
Scripps
Settle
Day
Bull
Bear

Tickle
Ogle
Kiss
Love
Court
Marry

Hay
Stacke
Straw
Grass
Barns
Ricks

Lily
Rose
Violet
Pink
Jasmin
Lavender

Saxon
Norman
English
Irish
French
German

Carr
Cart
Gigg
Landau
Brougham
Tilbury

Guest
Friend
Husband
Brother
Cousins
Uncles

Boyes
Child
Lass
Ladd
Man
Dadd

Goodchild
Goodlad
Goodson
Goodman
Goodfellow
Goodbody
Goodenough
Toogood
Abbey
Chapel
Church
Spires
Kirk
Temple

Organ
Stops
Fife
Flageollet
Tabor
Timbrell
Cornet

Tree
Plant
Fern
Shrub
Leaf
Twig
Root

Pipkin
Pitcher
Pot
Kettle
Pan
Fender
Irons

Inch
Ell
Cubit
Yarde
Rood
Furlong
Miles

Gallop
Trot
Leeper
Trotter
Walker
Hunter
Fisher

Pond
Pool
Eddy
Lake
Rivers
Dyke
Brook

Sad
Grave
Gay
Happy
Jolly
Lucky
Lively

Grain
Wheat
Barley
Oats
Corn
Rye
Pollard
Pease
Beans
Rice
Grist

Sword
Sheath
Arrow
Dart
Shield
Target
Gun
Rapier
Spear
Lance
Pike
Muskett

Quay
Wharf
Ship
Craft
Cutter
Deck
Skipper
Crew
Cook
Purser
Steward
Stoker

Plane
Saw
Axe
Hammer
Mallett
Pick
Mattock
Trowel
Winch
Rake
Rule
Shears

Acres
Banks
Bowers
Dales
Dells
Downs
Fields
Forest
Glens
Groves
Hills
Meads
Meadows
Parks
Garden
Flowers
Vale

Butter
Coffee
Egg
Fish
Fowl
Ham
Lamb
Pease
Veal
Bacon
Mutton
Pickles
Spice
Pigeon
Pie
Tart
Jelley
Cheese
Mustard
Pepper
Sugar
Salt
Malt
Hops

Cockle
Crab
Dabs
Dace
Eeles
Gudgeon
Haddock
Lampray
Ling
Mackerell
Pike
Place
Roach
Salmon
Seal
Smelt
Sole
Spratt
Sturgeon
Tench
Turtle
Whale
Whiting

Capon
Cock
Henn
Chaffer
Crane
Crow
Daw
Dove
Duck
Drake
Eagle
Finch
Goldfinch
Goldhawk
Gull
Gander
Goosey
Gosling
Grouse
Hawk
Heron
Jay
Kite
Martin
Partridge
Pigeon
Raven
Starling
Swallow
Swan
Sparrow
Nightingale
Quayle
Wren
Lark
Woodcock

Last
Patten
Boot
Slipper
Stocking
Mittens
Coates
Vest
Mantle
Robe
Bonnett
Hatt
Capp
Tippett
Hood

Abbot
Fryer
Prior
Parson
Clerk
Cure
Chaplin
Dean
Deacon
Chancellor
Bishop
Monk
Priest
Pope

Ash
Bay
Beech
Box
Burch
Deal
Elder
Elmes
Hawthorne
Hazel
Holley
Linden
Oaks
Olive
Pine
Poplar
Privett
Sycamore
Thorn
Vine
Willows

Gold
Silver
Copper
Pinchbeck
Brass
Iron
Stone
Gravell
Glass
Chrystal
Flint
Steel
Ivory
Wood
Bone
Horn

Inns
Host
Barr
Tapp
Ostler
Boots
Beer
Porter
Perry
Gin
Port
Sherry
Cape
Claret
Hock
Negus
Portwine

Lightfoot
Heavyside
Armstrong
Smallbone
Proudfoot
Barefoot
Silversides
Silverlock
Whiteman
Blackman
Whitehead
Whitefoot
Whitehair
Whitelock
Whitehand
Whiteside
Strongi'th'arm

Apple
Cherry
Citron
Codlin
Lemon
Medler
Orange
Peach
Pear
Pine
Plum
Quince

Cock
Alcock
Glasscock
Badcock
Bowcock
Hancock
Haycock
Hiscock
Hitchcock
Boocock
Peacock
Pocock
Lowcock
Maycock
Meacock
Woodcock
Trebilcock

Chester
Derby
Devonshire
Doncaster
Dorset
Dulwich
Erith
Essex
Farnham
Fleetwood
Freshwater
Glasgow
Grantham
Halifax
Hampshire
Hampton
Hastings
Hatfield
Hayes
Hanley
Healey
Hornsey
Hull
Hambro
Kendal
Kent
Kerry
Kew
Kingston
Kirkaldy
Lanark
Leeds
Leicester
Leith
Lincoln
London
Louth
Luton
Malton
Manchester
Marlborough
Newark
Nottingham
Norwood
Oldham
Oxford
Paris
Pau
Poland
Reading
Rochester
Rome
Salisbury
Sheffield
Shrewsbury
Spalding
Stafford
Stirling
Stratford
Sutton
Sydney
Sydenham
Wakefield
Walton
Warwick
Warrington
Whitby
Wickham
Wigan
Winchester
Windsor
Woodford
York

Badger
Bear
Buck
Bull
Bullock
Cow
Deer
Doe
Fawn
Ferit
Foal
Fox
Gelding
Griffin
Hare
Hart
Heffer
Hind
Hogg
Kidd
Lamb
Leverett
Lion
Leopard
Mole
Palfrey
Pointer
Poulet
Rabbits
Ram
Roe
Roebuck
Stag
Squirrel
Wolf
Tiger

Arrowsmith
Baker
Barber
Brazier
Brewer
Butcher
Butler
Carpenter
Carter
Carver
Cartwright
Chandler
Chapman
Carman
Cheeseman
Clothier
Collier
Cook
Cooper
Carrier
Cutler
Draper
Driver
Dyer
Farmer
Farrier
Gardener
Grazier
Gilder
Glover
Goldsmith
Groom
Gunner
Hatter
Hawker
Huntsman
Hosier
Mason
Merchant
Mercer
Miller
Nailer
Ostler
Page
Painter
Pitman
Plowright
Potter
Purser
Saddler
Sawyer
Scrivener
Shoesmith
Seaman
Sexton
Shepherd
Sheriff
Shipwright
Skinner
Slater
Smith
Tanner
Taylor
Tinker
Turner
Wainwright
Weaver
Woodman

Tall
Short
High
Low
Small
Large
Little
Long
Broad
Round

Fair
Dark
Light
Black
White
Green
Brown
Grey
Dunn
Pink
Rose
Violet
Sage
Olive
Ruddy
Scarlett
Roan

Adam
Abel
Betty
Bessy
Cain
Cave
Charles
David
Daniel
Dick
Edmund
Edward
Enoch
Eve
Ellen
Frank
Francis
Frederick
George
Hannah
Harold
Herbert
Henry
Isaac
Jacob
Jacques
James
Jane
Jack
Janet
Job
John
Joel
Jonas
Joseph
Josiah
Joshua
Julian
Karl
Lazarus
Leah
Louis
Lucy
Luke
Louise
Matthew
Mark
Maude
Moses
Nathan
Nell
Noah
Noel
Nicholas
Oswald
Oliver
Patrick
Paul
Pattie
Peter
Philip
Percival
Ralph
Richard
Robert
Ronald
Rowland
Saul
Sidney
Simon
Solomon
Stephen
Thomas
Timothy
Toby
Walter
Willie

Sherriff
Constable
Nabb
Court
Judge
Jury
Justice
Sentance

Farthing
Halfpenny
Penny
Franck
Shilling
Goulden
Dollar
Pound

Hit
Stabb
Strike
Pinch
Pull
Knock
Lash
Shove
Trounce

England
Ireland
Wales
France
Germany
Holland
Spain
Flanders

Baron
Duke
Earl
King
Knight
Lord
Prince
Squire

Straw
Platt
Bonnett
Tye
Bow
Ribbands
Plume
Feathers

Frost
Snow
Hail
Rain
Mist
Fogg
Dew
Fairweather

Kind
Lively
Good
Patient
Humble
Faithful
Faultless
Perfect

Botham
Sidebottom
Shufflebottom
Higginbotham
Rowbotham
Winterbottom
Longbottom
Ramsbottom

Fatt
Lean
Slight
Slim
Stout
Lusty

Bugg
Fley
Wasp
Bee
Moth
Grub
Worm
Leech
Beetles

Quick
Hastie
Sharp
Tardy
Fast
Fleet
Swift
Slack
Loose
Keen

NOTES ON PERFUMERY.

At the meeting of the American Pharmaceutical Association in Philadelphia last year, Mr. W. Saunders, of London, Ontario, Canada, gave the subjoined valuable results of his experience in regard to perfumery. We take the report from the "Proceedings" of the Association :—

The art of compounding perfumes is an ancient one. It was practised by the early Egyptians and other Oriental nations, and with them perfumes were in frequent use. In Holy Writ, Moses speaks of being directed to take sweet spices, stacte, onycha, galbanum, and frankincense, and confection them into a pure and holy perfume after the manner of the apothecary, to be offered up to the Lord; and in Proverbs we read of epicures indulging in the luxurious use of costly perfumes. The Greeks and Romans used perfumes freely, as well on their persons as at their feasts; they were also used with flowers at sacrifices to regale the gods. These fragrant compounds were in demand for theatres and other places where crowded audiences assembled, when their use subdued the offensiveness of a vitiated atmosphere. Different nations preferred different odours; with one the violet was most popular, while others gave preference to the rose.

From the frequent mention of perfumes in the form of ointment, it would appear that the solvent powers of fatty matters over the odorous principles of flowers was among the earlier discoveries in this department. Subsequently fragrant waters were in great demand, and costly as these articles of luxury then were, they were nevertheless largely consumed. Grave men at times protested against the prevailing extravagance, and philosophers declared their aversion to perfumes. "There is the same smell," said Socrates, "in a gentleman and a slave, when both are perfumed;" hence, in his opinion, the only odours desirable were those arising from honourable toils, and "the smell of gentility;" but in spite of protests the wealthy perversely and persistently followed their own tastes, anointed their bodies, pomaded their hair, and bathed their limbs in fragrant waters, as though the thoughtful ones had never spoken.

In later times, with the advance of civilisation, the use of perfumes gradually extended to other nations, culminating in their general use throughout the civilised world. In some countries there was for a time stout opposition to the introduction of all such preparations. In England it was seriously thought to be a fit subject for legislative control. In 1770 an Act was introduced into the English Parliament as follows:—"That all women, of whatever age, rank, profession, or degree, whether virgins, maids, or widows, that shall from and after such Act, impose upon, seduce and betray into matrimony any of His Majesty's subjects by the scents, paints, cosmetic washes, artificial teeth, false hair, iron stays, hoops, high heeled shoes, bolstered hips, shall incur the penalty of the law now in force against witchcraft and like misdemeanours, and that the marriage, upon conviction, shall stand null and void."

In large cities the manufacture and sale of perfumery is sometimes carried on as a separate occupation, yet as a rule this department of business, as in ancient days, is still associated with the trade and mysteries of the apothecary. Some may perhaps have but little sympathy with the manufacturer of perfumery, and may think that it were better handed over to the hairdresser or dealer in notions, and that the apothecary should devote his time exclusively to the more important duties of dealing out medicines, pure and simple, to meet the requirements of physicians and the wants of suffering humanity. This latter is doubtless the most legitimate and beneficent exercise of the apothecaries' skill, and ought always to be regarded as of primary importance; yet he will often have spare hours when he can enjoy the pleasures connected with the compounding and blending of odours, and at the same time develop a profitable and time-honoured branch of his business.

The cultivation of the olfactories is an advantage to the pharmacist. The nose is an organ whose importance he cannot ignore in his business, and it is doubtful if better training can be found for it than in the compounding of perfumes. We all think it a gain to have a fine ear for music; why should we think less of an exquisite nose for odours? Surely this prominent member is as capable of cultivation as is the ear, not that an unusual development is desirable in either case, but rather the making the very best use of the organs with which we have been supplied. There are harmonies and discords in perfumes as in music; Piesse has reduced them to a scale which he calls the gamut of odours. "If," says he, "a perfumer desires to make a bouquet from primitive odours, he must take such odours as chord together; the perfume will then be harmonious."

For some time past the tendency has been to turn over the manufacture of perfumes too much to the specialist. This has probably resulted mainly from two causes,—first, the difficulty of procuring the materials used in the making of perfumes in a state of purity, and in the second place for want of plain and practical information on the subject. The first obstacle is less felt now than formerly, and to aid in the removal of the second is the main object of the present paper. My purpose is to place within the reach of every one of our members such information as will enable him with a little attention to equal the finest productions of a Lubin, an Atkinson, or a Rimmel.

I have now before me samples of twenty different extracts, any of which will, I think, compare favourably with the best of those imported. I shall first briefly refer to the ingredients which enter into their composition, and afterwards give the formulæ for their production.

Alcohol.—One of the first requisites in the manufacture of good perfumes is pure alcohol, free from fusil oil or other foreign flavour. This purer grade of spirit is known in commerce as pure spirits, silent spirits, or deodorised alcohol, and may readily be distinguished from ordinary alcohol by the absence of that peculiar pungency of odour which is present to a greater or less extent in most commercial samples.

Ottos or Essential Oils.—It is of the greatest importance that these should be strictly pure and of the finest quality.

Pomades.—From these are prepared some of the simple extracts in the appended formulæ, such as jasmine, tuberose, and cassia. The quality must be that known as triple pomade. The simple extracts are prepared as follows: one pound of the pomade is cut in small pieces and placed in a bottle of sufficient capacity, in which is put a pint of pure spirit. Place the bottle, suitably stoppered, in a water-bath, and apply heat sufficient to barely melt the pomade, shake well together, and repeat the shaking frequently until the fatty matter solidifies. In this way the pomade will be reduced to a finely divided or granular state, permeated thoroughly by the spirit. Allow this to stand for several days, giving it an occasional shake, then drain off the liquid extract into another bottle; if this fall short of a pint repeat the operation with a sufficient quantity of alcohol to make up this measure. By subsequent and similar treatment, a second and even a third quantity of extract may be made, which although much weaker, will be found useful in the preparation of cheaper perfumes.

Extract of Orris.—Seven pounds of finely ground orris root of good quality, is treated by percolation with pure alcohol until one gallon of extract is obtained.

Extract Vanilla.—Four ounces of vanilla beans of the finest quality, powdered finely in a mortar with a sufficient quantity of dry white sugar (from four to six ounces), pack in a percolator, and percolate with proof spirit until one gallon is obtained.

Extract Tonka.—Take one pound of tonka beans, reduce to a coarse powder, and percolate with alcohol, to make one gallon.

Extract Musk.—Take of pure grain musk of the first quality two drachms. Mix half an ounce of liquor potassæ with four ounces of proof spirit, and triturate the musk with this mixture until it is thoroughly softened and reduced to a creamy state; add enough proof spirit to make up about one pint; stir well, then allow the coarser particles to subside, and pour off the supernatant fluid. Rub the coarser portions again with a fresh portion of spirit, proceeding as before, and repeat the process until the musk is entirely reduced, and the quantity of extract measures three pints. Allow this to stand for a fortnight, with occasional shaking, when it will be ready for use.

Extract Styrax.—Eight drachms of styrax balsam dissolved in one pint of alcohol.

Benzoic Acid.—Only that prepared from gum benzoin should be used.

FORMULÆ.

Jockey Club.

Ext. jasmin	5 ounces
,, orris	20 ,,
,, musk	7 ,,
,, vanilla	1½ ,,
Otto rose, virgin	1½ drachms
,, santal flav.	1½ ,,
,, bergamot	2½ ,,
,, neroli super	40 minims
Benzoic acid	2 drachms

Pure spirit, sufficient to make 4 pints.

In this, as well as in all the following extracts, before adding the last portion of the spirit, replace as much of it with water as the perfume will bear without becoming milky, which will vary from two to eight ounces or more. This addition will make the perfume softer.

Moss Rose.

Otto rose, virgin	2 drachms
,, santal flav.	2 ,,
Ext. musk	12 ounces
,, vanilla	4 ,,
,, orris	2 ,,
,, jasmin	4 ,,
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

White Rose.

Otto rose, virgin	2 drachms
,, red cedar wood (true)	6 minims
,, patchouly	4 ,,
,, orange (fresh)	½ drachm
Ext. tuberose	2 ounces
,, orris	2 ,,
,, jasmin	2 ,,
,, musk	2 ,,
Benzoic acid	1 drachm

Pure spirit (to which 4 ounces of rose water has been added), sufficient to make 4 pints.

Victoria.

Otto rose, virgin	2 drachms
,, neroli, super	2 ,,
,, bergamot	4 ,,
,, coriander	16 minims
,, pimento	24 ,,
,, lavender (English)	16 ,,
Ext. jasmin	2 ounces
,, orris	16 ,,
,, musk	2 ,,
Benzoic acid	2 ,,

Pure spirit, sufficient to make 4 pints.

Ess. Bouquet.

Ext. musk	4 ounces
,, tuberose	2 ,,
Otto rose, virgin	1 drachm
,, bergamot	1¼ ,,
,, neroli super	½ ,,
,, verbena (true)	8 minims
,, pimento	10 ,,
,, patchouly	3 ,,
,, red cedar wood (true)	½ drachm
,, lavender (English)	12 minims

Pure spirit, sufficient to make 4 pints.

Musk.

Ext. musk	1 pint
,, orris	6 ounces
,, vanilla	2 ,,
,, styrax	2 drachms
Otto santal flav.	1 drachm
,, bergamot	2 drachms
,, neroli super	10 minims
,, patchouly	12 ,,
,, lavender (English)	15 ,,
,, cinnamon (true)	6 ,,

Pure spirit, sufficient to make 4 pints.

Patchouly.

Otto patchouly	2 drachms
,, santal flav.	40 minims
,, rose, virgin	40 ,,
Ext. musk	8 ounces
,, orris	8 ,,
,, vanilla	4 ,,
,, styrax	2 drachms

Pure spirit, sufficient to make 4 pints.

Millefleur.

Otto rose, virgin	1 drachm
,, red cedar wood (true)	1 ,,
,, orange (new)	1 ,,
,, pimento	20 minims
Ext. orris	6 ounces
,, jasmin	2 ,,
,, styrax	1 ounce
,, tonka	4 ounces

Pure spirit, sufficient to make 4 pints.

Ylang Ylang.

Ext. tonka	3 ounces
,, musk	4 ,,
,, tuberose	4 ,,
,, cassia	4 ,,
,, orris	8 ,,
Otto orange (new)	2 drachms
,, neroli super	½ drachm

Pure spirit, sufficient to make 4 pints.

Spring Flowers.

Ext. orris	4 ounces
,, jasmin	4 ,,
,, musk	4 ,,
Otto bergamot	2 drachms
,, neroli super	½ drachm
,, verbena (true)	10 minims
,, red cedar wood (true)	1 drachm
Benzoic acid	1 ,,

Pure spirit, sufficient to make 4 pints.

Wood Violets.

Ext. orris	12 ounces
,, tuberose	2 ,,
,, jasmin	1 ,,
,, musk	4 ,,
Otto bergamot	2 drachms
,, lavender (English)	1 ,,
,, verbena (true)	10 minims
,, amygd. amar.	12 ,,
,, coriander	6 ,,
,, sweet flag	4 ,,
,, bay leaves	4 ,,
Benzoic acid	1½ drachm

Pure spirit, sufficient to make 4 pints.

West End.

Ext. orris	12 ounces
,, jasmin	4 ,,
,, musk	8 ,,
,, cassin	4 ,,
,, styrax	1 ,,
Otto bergamot	3 drachms
,, verbena (true)	15 minims
,, neroli super	½ drachm
,, rose, virgin	½ ,,
,, red cedar wood (true)	1 ,,
Benzoic acid	1

Pure spirit, sufficient to make 4 pints.

Tuberose.

Ext. tuberose	24 ounces
,, musk	4 ,,
,, jasmin	1 ,,
Otto rose, virgin	1 drachm
,, neroli super	10 minims
Benzoic acid	2 drachms

Pure spirit, sufficient to make 4 pints.

Stephanotis.

Ext. cassin	4 ounces
,, tuberose	4 ,,
,, jasmin	2 ,,
,, musk	8 ,,
,, orris	8 ,,
,, tonka	3 ,,
Otto rose, virgin	1 drachm
,, neroli super	½ ,,
Benzoic acid	1 ,,

Pure spirit, sufficient to make 4 pints.

Rondeletia.

Otto lavender (English)	1 ounce
,, cloves	½ ,,
,, bergamot	½ ,,
,, rose geranium (Turkey)	2 drachms
,, cinnamon (true)	20 minims
,, rose, virgin	10 ,,
,, santal flav.	1 drachm
Ext. musk	2 ounces
,, orris	4 ,,
,, vanilla	2 ,,
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

New Mown Hay.

Ext. tonka	25 ounces
,, musk	6 ,,
,, orris	8 ,,
,, vanilla	1 ,,
,, styrax	1 drachm
Otto bergamot	1 ,,
,, neroli super	15 minims
,, rose, virgin	10 ,,
,, cloves	6 ,,
,, lavender (English)	10 ,,
,, patchouly	10 ,,
,, santal flav.	1 drachm
Benzoic acid	1½ ,,

Pure spirit, sufficient to make 4 pints.

Frangipanni.

Ext. orris	4 ounces
,, tuberose	2 ,,
,, musk	4 ,,
,, vanilla	2 ,,
,, jasmin	1 ,,
,, styrax	1 ,,
Otto neroli super	1 drachm
,, rose, virgin	½ ,,
,, santal flav.	1 ,,
,, red cedar wood (true)	1 ,,
,, pimento	½ ,,
,, cassin	20 minims
,, bergamot	½ drachm
,, ginger	4 drops
,, lavender (English)	6 ,,
Benzoic acid	2 drachms

Pure spirit, sufficient to make 4 pints.

Clove Pink.

Ext. jasmin	12 ounces
,, orris	12 ,,
,, musk	8 ,,
Otto rose, virgin	1 drachm
,, cloves	2 drachms
,, neroli super	1 drachm
,, pimento	10 minims
,, patchouly	20 ,,
,, santal flav.	2 drachms
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

Violet.

Ext. orris	2 pints
„ tuberose	4 ounces
„ vanilla	3 „
„ musk	3 „
„ tonka	2 „
Otto rose, virgin	1 drachm
„ neroli super	40 minims
„ pimento	12 „
„ bergamot	1 drachm
Benzoic acid	1 „

Pure spirit, sufficient to make 4 pints.

Mignonette.

Ext. orris	12 ounces
„ tuberose	4 „
„ vanilla	4 „
„ musk	2 „
Otto rose, virgin	1 drachm
„ neroli super	1½ „
„ pimento	12 minims
Benzoic acid	1 drachm

Pure spirit, sufficient to make 4 pints.

THE SOUTH LONDON SCHOOL OF PHARMACY.*

THE annual Christmas dinner of the teachers and students of the South London School of Pharmacy was held on the evening of December 22, at the Horns, Kennington, Dr. John Muter, the director, in the chair, with Mr. Baxter, secretary of the school, as vice-chairman. A number of former students were present and some invited guests. In the course of the evening the following medals and certificates were distributed, amid loud applause.

Senior Chemistry.		Junior Chemistry.	
Medal	Mr. Hart.	Medals	Messrs. Otley and Saunders.
Certificate	Mr. Newsholme.	Certificate	Mr. Manduel.
Botany.		Materia Medica.	
Medal	Mr. Wheeler.	Medal	Mr. Beall.
Certificate	Mr. Colegrove.	Certificate	Mr. Wilmer.
Practical Dispensing and Pharmacy.			
Medal	Mr. Colegrove.	Certificate	Mr. Wheeler.

In proposing "Success to the South London School of Pharmacy," Dr. Muter remarked on the efficiency with which, in his opinion, the pharmaceutical examinations were now conducted. In this respect he considered they were second to none in England. This was due to the fact that the examiners were men thoroughly up to their work. There were two points in regard to these examinations where he thought improvement might be effected. In the first place, he thought the permission to use books and notes at the Major Examination should be abolished. This concession was playing into the hands of inefficient candidates, as it required no great amount of education to learn how to use a book. He should be ashamed of any of his students who were compelled to use books or notes when they went up for the Major Examination. The second improvement which he would suggest was a reduction in the number of the examinations. He thought them at present too frequent, and believed that an examination every three months, or perhaps one every fourth month, would be sufficient. If a man failed he was put back for three months, and the frequency of the examinations was a direct encouragement to the crammers and to the presentation of insufficiently prepared candidates.

Mr. Baxter proposed "The Successful Candidates." Success, he said, had been the motto of their school since its foundation. They had now educated between 1,200 and 1,300 pharmaceutical students, and the education given at the South London School of Pharmacy, if not superior, was at least equal to that given at any other institution. He would not say that their teachers were superior to all other teachers, but he would say that no man living possessed the power of imparting his knowledge in an equal degree with Dr. Muter. He (Mr. Baxter) hoped on a future occasion they might see some of the representatives of the Pharmaceutical Society at their annual gathering. Mr. Hart and Mr. Colegrove responded to this toast. The other toasts were "Dr. Muter," proposed by Mr. Barker, of Bristol, "Mr. Baxter," "Mr. Dodd" and "The Visitors." These were interspersed with songs, music, and recitations, some of them excellently rendered, which kept the company enlivened until a late hour.

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* This notice was accidentally omitted from our last publication.

QUICKSILVER.

THE production of quicksilver is well treated in a recent number of the *American Manufacturer*, in an article by Senor Don F. A. Sola, from which we extract the following particulars :—

Spain for several centuries had exclusive possession of the sources of supply of quicksilver. The Spanish mines at Almaden,* which, in spite of the important discoveries mentioned further on, are the richest deposit in the world, were worked in the most remote periods. A passage of Pliny shows that the Romans depended on them exclusively for the manufacture of vermilion, and he gives evidence of their immense importance in the ancient world. When the 10,000 *libræ* of ore had been extracted from them for the needs of the year they were shut with solemn ceremonies, and the key of the mines was lodged with the prefect. They could not be opened again without orders direct from Rome. It is generally considered that the Carthaginians, or at least the Phœnicians, preceded the Romans in working the Almaden mines. Historic proof of this fact, it is true, is wanting, but its admissibility seems to me to be possible: firstly, from the great importance attached to their Spanish possessions and their mineral wealth by the Phœnicians; secondly, from the proximity of these mines to the centre of the Phœnician occupation in Spain; thirdly, from the manufacture of vermilion denoting a certain degree of progress in industrial arts, which is more intelligible on the part of a commercial people than on the part of a mere nation of soldiers; fourthly, from the fact that the Romans, who never displayed any marked aptitude for industry, were but the pupils of the peoples who had preceded them in civilisation.

Whatever their antecedents, the Almaden mines stood alone in the world during the long period between the rise of the Roman power and the beginning of mineral industry in America.

The separation of silver from its ores, in the amalgamation process, is the principal large use to which mercury is put. The discovery by Spain of the rich silver mines of Mexico and Peru caused a great increase in production, and from that time forward Almaden became important. In Peru the cinnabar mines of Huencavelica had been discovered, and in Austria those of Idria, in the province of Carniola; but the former were closed at the end of last century, the winning having been conducted in a very reckless fashion. The Spanish Government, which retained a monopoly of the trade with the New World, persuaded the Emperor of Austria into an arrangement under which the latter, after retaining sufficient for use in Austria, made over to the Spaniards the whole surplus output of the mines at Idria. The Spaniards carried on a very profitable trade with the mercury which they bought at their own price from Austria, and sold at their own in America. Spain thus remained mistress of the market, although no longer the exclusive producer of the metal. She took from Austria every year 368 tons of mercury, at 240*l.* per ton, reselling it at 360*l.* per ton. At about this time negotiations were entered into with the famous Fugger family by the Spanish Government for ceding to them the right of working the Almaden mines, and reducing the cinnabar. This concession was enjoyed by the Fugger family from 1525 to 1645, and enriched it enormously. Its members became princes of the Roman Empire, and accumulated one of those colossal fortunes at which history is amazed. Their name, Ibericised into the form Fucar, became a synonym for wealth, and the Spanish proverb, "richer than a Fucar," is still current.

The mines discovered in Germany and Tuscany being of no great importance, the only apprehension of the Spaniards was to see China, who was supposed to possess enormous deposits of cinnabar, appear in the market as a seller. The contrary, however, has really happened, China being a buyer in the markets of both Europe and America. Just when no such thing was being thought of by any one, new discoveries were made on such a scale that the former conditions of the mercury market have entirely passed away.

At the time of the gold fever in California the gold-finders in the Trinidad placers used to come across grains of reddish stone of so high a specific gravity that on washing the sands they always settled at the bottom of the cradles, after lighter matters had been removed. The name of "red stuff" was given to it by the miners, just as that of "blue stuff" was given to other numerous fragments of a blueish colour. The first was cinnabar, the second an extremely rich sulphate of silver.

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* Almaden, "The Mine," according to its Arabic name, is situated in La Mancha, at the point where this province joins Andalusia and Estremadura.

In a country where science and action are both practical, and easily come together for the common good, these indications were speedily utilised. When the importance of the "placers" became less, investigations of a very costly nature were set on foot. At the cost of labours which would have discouraged less energetic and enduring men, the veins were discovered which are now great sources of wealth. At the present time New Almaden, New Idria, Napa, Coluso, Sonoma, and Lake Colorado, afford ample field for the energies of that puissant race, which, to its unresting exploration has added unresting winning, and to these an unresting progress in the methods of treatment of the output. Three patents for distilling furnaces are in existence; Randal's, Knox & Orborn's, and Livermore's. These are for treating poor ores, either in cakes or in a pulverulent condition. Ores differ very considerably in richness, the range being from 20 to 2 per cent. All has been the work of less than a quarter of a century, and at the present time more than half the world's consumption of quicksilver is yielded by that privileged country.

The metal is brought to market in iron flasks holding 76 lbs. (34·5 kilogrammes) of mercury. Of the total annual production of 100,000 bottles, 60,000 come from California. From the port of San Francisco, where the greater part of this is shipped, there have been forwarded during the last fifteen years 400,000 bottles, of the total value, in round numbers, of 2,850,000*l*. New Almaden, which for some years has been the most productive mercury mine in the world, produced 34,765 bottles in 1862, 40,391 in 1863, and 47,191 in 1864. The highest output in any year of the original (Spanish) Almaden Mine was 32,336 bottles; its annual rate at present is restricted to 9,000 bottles. The results of the American production have been, in the first place, to arrest the upward tendency of the price of quicksilver, and in the second, to increase the stock, as shown by the contrast between the 23,591 bottles entered at New York in 1874, and the 47,165 entered in 1875. In the third place the consumption has so increased that China, which in 1873 took 1,900 bottles, figures in the statistical accounts of San Francisco in 1875 for 18,190 bottles; while Mexico, which in the first of those two years limited its demands to 3,761 bottles, took 5,757 in 1875. Lastly, the American consumption has been enabled to rise to 15,000 or 20,000 bottles a year, which is the quantity retained by the States for their own use. The Californian mines produced last year a total of 40,900 bottles, distributed as follows:—Redington, 13,000 bottles; New Almaden, 9,000; New Idria, 8,800; Guadaloupe, 3,400; Great Western, 3,400; St. John, 700; Liverdale, 700; Buckeye, 700; Manhattan, 450; Great Eastern, 400; Phœnix, 350. The weight here shown is about 1,420 tons. The production of Sulphur Bank, which takes the second rank among American quicksilver mines, and that of several mines of less account, were not included in the documents from which we extracted the foregoing figures.

We can now see to what an extent the market has been modified. Spain has never been in a position to offer more than 40,000 bottles a year; the Almaden furnaces now producing up to a standard of 25,000 bottles, and the standard consumption being about 100,000 bottles. The difference is furnished by other sources of supply than Spain. The quicksilver market, therefore, it is self evident, is no longer a monopoly of Spain. It was ours so long as we were the only producers, but England, for whose custom all producers are desirous, as she consumes on her own account about half the total product, or say 45,000 bottles, has become the field of competition, and the market has been transferred to London. To this change the house of Rothschild has contributed by the share it has taken in quicksilver transactions, the possession of the Spanish mines having been made over to it for a certain number of years.*

Fortunately for us Spanish producers, the heavy cost which California mercury has to defray for carriage before it can make its appearance on the London market, as well as other charges which it has to bear before it leaves its port of exportation, affects it sufficiently to tell very decidedly in our favour, and make our competition possible. The time, however, is come when we should do well to rouse ourselves from any dream of undisturbed possession, and endeavour to get all the profit we can out of conditions which we are not in a position to annihilate. The decided tendency to rise which was marked before the discovery of Californian cinnabar has not only not been contra-indicated, but there has been a considerable decline.

The two principal elements of price are the cost of raising and the cost of purifying.

The first of these elements, the cost of raising, may as well stand out of the discussion; labour is dear at Almaden, as treble pay is given. This cannot be avoided, since the miners cannot work more than three hours a day without being poisoned. But any reduction in the cost of raising would tell very slightly on the cost of the metal, since even the triple pay brings up the first charge to only 2*s*. 6*d*. per cwt. The question is thus limited to one of treatment of ore, and it is in this that we in Spain have to confess room for improvement.

The furnaces in which distillation is carried on at Almaden are those of Bustamente, invented by that distinguished engineer in 1648 (that is to say, at the time that the Fuggers gave up the mines), and the so-called Idrian, introduced in 1806. This latter year is the latest term of improvement. Idria, itself, however, has twice since then reformed its distilling, and in California, as we have already stated, there are three patent systems in use. As it is reasonable to suppose that each and all of these newly introduced systems have improved on the older ones, this mere recapitulation shows us as very much behindhand.

The treatment of cinnabar is difficult, on account of the volatile nature of mercury, which, if not prevented, escapes with the products of combustion. The damage done by mercury fumes is specified by Dr. Roberts in a remarkable work treating of Berrens' system, by which evaporation is completely avoided.

The ordinary estimate of the loss by evaporation in the Almaden mines is 50 per cent. The result of an experiment by the celebrated engineer Escosura, who obtained a minimum of loss of 4·36 per cent., has sometimes been looked upon as a standard; but the results obtained in a laboratory cannot for a moment be compared with practical furnace work as carried out at Almaden. Senor Monasterio, Director of the Madrid School of Mines, was commissioned some years ago by the Government to report upon the system proposed by M. Pellet, a French engineer, as compared with that followed at the Idria furnaces. He reported unfavourably to Pellet's system, and it is therefore to be supposed that he did the best he could with the San Luis furnace, on the Idria plan. The percentage of loss stated by him was 5·59 per cent.; but the figures are open to question—firstly, for the same reasons as those given in reference to Escosura; and, secondly, from the testimony of M. Huyot, who ("Annales des Mines," 1852) states the loss at Idria to be 27 to 29 per cent. Senor Monasterio concludes his report in the following words:—"Can it be supposed that, under normal circumstances, when one has not the same interest (*i.e.*, in the ordinary course or working) the loss rises to twice the amount? Even then it would only be 20·16 per cent., or less than half the amount which has been stated in public documents." It would almost seem as if Senor Monasterio were satisfied with 20·16 per cent. of loss—which, by the way, comes very near to Huyot's estimate of the loss at the Idria furnaces. Letting it, however, stand at this, and supposing that the mines at Almaden have produced to a value of 60,000,000*l*. since the establishment of Bustamente's furnaces, the proportionate loss will not be less than 12,000,000*l*.

The ratio of loss in the patent furnaces used in the United States I am not acquainted with; but I cannot conceive it possible that the American would look without concern on the loss of such immense quantities of mercury, discharged uselessly into the atmosphere. It is very possible, therefore, that we are seriously at a disadvantage relatively to the mines of California.

The advantages which the Almaden mines possess over their rivals beyond the sea are very considerable. In the first place, their ores are much richer than those of California; the preliminary costs have been long since defrayed, and the seams are of great thickness, some workings being 12 feet, others 15 feet, and others nearly 30 feet thick. Spanish quicksilver, too, can be put on the English market at only a fraction of the freightage paid by Californian metal. These are conditions which ought to turn the balance in competition, and if the increasing consumption of America absorbs its output, as it tends to do, the market of Europe can and ought to belong to Spain.

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* The house of Rothschild acquired the right to work the Almaden mines by a concession made in consequence of a contract entered into with the Spanish Government in 1843.

Almaden only raises 4 tons of mercury a day, or 25,000 bottles the seven months of working. England wants 45 tons. Since we could let her have them, why do we not?

Fortunately for Spain, an improvement is at hand. A distinguished chemist of Barcelona is now testing at Almaden a furnace of his invention, which is reported to save the whole amount of the mercury distilled, whatever be the quality of the ores. The tests were conducted in the presence of a commission of three mining engineers specially appointed by the government.

Two experiments were made. In the first, the inventor, Senor Berrens, operating with great care, obtained a quantity of mercury equal to the proportion contained in the ore, less 0·79 per cent. In the second, the inventor, so far from operating with care, seemed to act with studied recklessness, and the commission were surprised to see the ordinary precautions totally abandoned. The inventor hastened the period of roasting; he drove the steam engine at 126 strokes a minute; he shortened by 25 hours the time taken for roasting in the previous experiment, and raised the temperature of the furnace to a white heat. He did all that could be done to entirely ruin the operation, and yet the loss did not exceed 3·62 per cent. Indeed, this loss was apparent only, not real, for the leaf of gold placed at the top of the flue did not show the smallest trace of mercurial change, proving that no loss by evaporation had taken place. This was acknowledged by the commission, which allowed that the mercury thus wanting might be deposited in a part of the apparatus contrived *ad hoc*. The object of the inventor in his second experiment was to show that his system was not easily prejudiced by careless working.

The Berrens furnace has the further advantage of remaining in use all the year round. The two experiments were carried out in August at an exterior temperature of 27° to 33° C., so that, without increasing the proportion of work, the 25,000 bottles produced in seven months could be raised to 43,000 bottles, working all the twelvemonth through.

The reality of this important improvement has been testified to by the competent authority of the commission, which presented its report last January.

CHINESE PRODUCTS.

A CORRESPONDENT of the *American Grocer*, writing from Canton, thus describes the method of making preserved ginger:—

"The ginger root, which is a large white variety, is first dug and the outer skin scraped off. This is chiefly done in the country surrounding Canton, where it is raised. It is then shipped down to the city in boats, carefully washed, and thrown into large kettles, where it is boiled for about twenty-four hours. It is then thrown into salt water, and allowed to remain there about twenty-four hours. Next, the rough ends are trimmed off with a knife and thrown upon tables, which are surrounded with operators, holding in each hand a kind of three-pronged fork, with which they prick the root until it is thoroughly punctured through and through. It is then washed in fresh water and dried in the sun for a time, after which it is again placed in large kettles, containing about an equal weight of sugar and boiled for about twelve hours; it is then taken from the kettles and put into large earthen jars. The syrup is poured over it, and it is allowed to remain here in syrup for several days—sometimes weeks. It is then boiled up again for a short time, when it is ready for packing. It is put up in jars and half-jars, such as all dealers are familiar with, and packed in cases containing six jars, or twelve half-jars.

"In all the various manipulations the Chinese are particularly dexterous. I was much interested in watching the process of putting the network of rattan over the jars by which they are carried and handled. A workman would seize a piece of rattan, twist it into two rings just big enough to go over the top and bottom, and with another slender strip would weave a network between these two rings so quickly that I could hardly believe that it had been accomplished by an individual and not by some marvellous machine. The pasting of the papers over the tops of the jars is also a curious piece of work. One end of a long strip of paper is first stuck to the edge of the jar, and the strip is then twisted over and over, each time receiving a little dab of paste until the jar is hermetically sealed, and all that is done with such quickness and dexterity that you can hardly follow the motions of the operator's hands."

Afterwards he describes soy:—

"'Soy' has always been a mystery to me, as I fancy it has been to most other people who have dealt in or used it. I was, therefore, anxious to see a soy factory, and taking a boat one day we proceeded two or three miles up the river to where one was in operation. I found that the principal ingredient or base is a white bean known as 'pak-toh,' which, so far as I could judge, is very like any other small white bean. These are boiled, heavily salted, and put into big earthen jars, holding, perhaps, half a barrel each, where they are allowed to remain for about ten days, during which period fermentation takes place. They are then mashed up with a species of olive, which is picked and boiled, and this mixture is placed into neat cloth bags, into which water is poured and allowed to percolate. The liquid is then taken out, placed in clean jars, and thickened with a heavy-bodied Chinese molasses, and this is soy.

SALICYLIC ACID IN TOOTH POWDERS.

MR. THOS. FLETCHER communicates the following to the *British Journal of Dental Science*:—

Some time ago I wrote two or three notes on the properties of salicylic acid for dental purposes. One of its special weak points appeared to be the fact that it combines instantly with alkalies and becomes practically inert. On further consideration I determined to test whether this objection was as real in practice as in theory, and for this purpose made two samples of tooth powder, as follows:—

No. 1.	Carbonate of soda	10	parts by weight
	Powdered liquorice	5	" "
	Prepared chalk	100	" "
	Precipitated chalk	100	" "

No. 2. Same as above, but with the addition of one part or about ½ per cent. of crystallised salicylic acid.

These two were distributed amongst a few friends, and the reports were most distinctly in favour of the sample containing salicylic acid, as having by far the greater cleansing power, more especially when used for cleaning artificial dentures. It would appear, therefore, that the rapid combination of salicylic acid is really no objection to its practical use and value.

It will be noted that carbonate of soda is used in the powder. This was added specially to test the salicylic acid when in the presence of a practically free alkali, with which I knew it would combine rapidly in the presence of moisture. Carbonate of soda itself I consider a most objectionable addition to a dentifrice, and after the results obtained by Dr. Palmer and myself as to the action of alkalies in the mouth, it becomes a grave question whether alkalies, unless firmly in combination, are admissable for cleansing purposes under any circumstances. In making a dentifrice of this kind for use, I should replace the carbonate of soda with borax.

DR. WILKS ON ALCOHOLISM.

THE *British Medical Journal* of a few weeks back reports a clinical lecture at Guy's Hospital delivered by Dr. Samuel Wilks, F.R.S., lecturer on medicine at the hospital. The remarks of Dr. Wilks are of great weight, especially at a time when a whole array of whiskies, brandies, sherries, and other alcoholic beverages more or less deadly are being hallelujahed through the country by the opinions of the medical press and testimonials from private practitioners.

We quote from Dr. Wilks's lecture:—

I do not know of any subject that is of greater importance to consider, both with reference to diet and medicine, than that of alcohol. You must be well acquainted with the evil effects of drinking in this great city, whether you look in the medical wards and see the patients brought there through it; in the surgical wards, and notice the number of accidents resulting from it; in the prisons, in the workhouses, where some of their wretched occupants owe their downfall from superior stations to it; or in the lunatic asylums, where 12 to 15 per cent. of the inmates have been broken down by it. It is remarkable how little we know of them, when it is considered what an enormous quantity of spirits is consumed. I believe twenty-five millions of gallons at least are made in this country every year. It is still disputed whether it acts as a food or not. A few years ago it was said that it all passed out of the system as alcohol, or as some of its products of decomposition. Some authorities, French chemists, said that it was eliminated by the skin, urine, breath, &c. They used chromate of potash, which is turned green by alcohol, as their test for it. I have read lately of a test in the French papers, where, to detect alcohol in the brain, this was boiled with benzoic chloride, and, if alcohol were present, it was changed into benzoic ether and recognised by its smell.

But the amount of alcohol excreted in this way is so infinitesimal that the remainder must be in the body, and there can be no doubt that it is oxidised; and this supports Liebig's theory that it is a food for the lungs.

If, however, we do not understand its physiological workings, yet we can see the effects of it on the system for all practical and clinical purposes. In the first place, does alcohol appear to be a necessary food? There can be but one answer. There are many nations who do not take it, and some whose religion forbids its use. Is it necessary for us? Well, you know many in this country who do not take any. It is not a necessity, then. It is for this we have to contend, and if I can impress this on you the hour will not be wasted. English people are, however, too often brought up with the idea that it is a necessary article of diet. Patients will take their wine and spirits even when they are doing themselves harm, and, if you object, will ask, "What must they do?" You tell them to do without them; to which they will reply that they must take something. I want you to get it thoroughly out of your minds that there is any *must* in it, and start afresh with the idea of its non-necessity.

Let children always live and grow up without alcohol; in after years, when we pass an artificial life, there may be reasons for taking it; but remember, even then it is not an absolute necessity. Start with this principle; let your patient, even an adult, try to do without it, and then, and if circumstances seem to suggest it, let him have his glass of wine. I do not say that a number of persons can do entirely without any in our present mode of living, but let us regard alcohol in its true light, as a luxury, as we do tea, tobacco, &c. If we do this, we are safe. I cannot recommend you to live entirely by rules and natural laws, and give up all the conventional luxuries of life, for then we should dismiss more than half the dishes from our table. I do not want this to come about, and, for my own part, I like a glass of wine or a cigar as well as other people. There is in to-day's paper an account of some vegetarians who never eat any meat. I do not advise you to follow their example, but it shows you that meat is not essential to life. We might, I have no doubt, live on what Dr. Johnson states Scotchmen and horses do—viz., oats.

What are the effects of a small dose of alcohol? It is said to be stimulant. If a man be jaded and tired, it gives a sort of temporary support; a little beyond this point, and he is depressed, the stimulant effect lasting only for a time. There is a dilatation of the vessels and warmth of the surface taking place, at the expense, however, of internal heat. In large doses the temperature goes down.

Do these small amounts really stimulate and help one in his work? I ask a sportsman; he says he gets tired, and then has lunch, after which he feels comfortable and jolly, but never shoots another bird. It is the same with billiard players. A violin player in my house was advised to take a glass of wine for his excessive nervousness, but refused, saying, "I know I shall lose all my nervousness, but I shall also lose my touch, and my notes will be blurred, and I shall be the last to find it out, although it will be very apparent to others."

You see, therefore, it does not stimulate or add edge to our accomplishments; but we might ask, does it add to our strength or enable us to endure longer? To answer this I will refer to a little book in my hand by the late Dr. Parkes, entitled, "On the Issue of a Spirit Ration during the Ashantee Campaign."

This book contains the reports of the medical officers on the effects of spirits doled out to the men. The result as given by Dr. Parkes is to the effect that alcohol is not a perfectly reliable aid, and requires, when used at all, to be employed with a full knowledge of its mode of action. The first effect of alcohol when given in a moderate dose (for example, what is equal to one fluid ounce of absolute alcohol) is reviving; but this effect is transient. As shown in the report, the reviving effect goes off after, at the utmost, two and a half miles of additional march, and sometimes much before this; then the previous languor and sense of exhaustion not only return, but are sometimes more intense, and, if alcohol is again resorted to, its effects now are less satisfactory.

The fact is that alcohol, as usually taken, is not a stimulant at all. It is a depressant and narcotic. People are simply under a delusion when they think it otherwise. We ought to change its name, and we should then get a proper notion of its character. I believe this change would tend more than any other single circumstance to make people cautious in its imbibition. It is taken for the same reason as chloral, and as opium in other countries. If you regard it as a narcotic, you will then better understand all the consequences of its use. A man in a drunken brawl overnight gets his teeth knocked out. The next morning he has no recollection how it occurred, or in what manner he could have met with the accident. Cases such as this are constantly being brought into the police courts, and to some people seem almost incredible.

Alcohol, you see, is an anæsthetic. The man we have just mentioned has felt no pain. In smaller doses, as you all know, it benumbs not only the sense of touch, but that of sight and taste. Every man who has drunk much wine feels that he has lost his taste for the time. He does not know whether he is taking good or bad. "Every man at the beginning doth set forth good wine; and, when men have well drunk, then that which is worse." If it were a stimulant, your taste ought to be more refined. It seems to be an utter absurdity to suppose that human nature can crave after a stimulant. For what are people craving? For what is a hard-worked man longing? Not for a stimulant, but for holiday and repose. It is for repose that every one is seeking. Some miserable people even long for death, "where the weary are at rest." Is not the cry of the lotus-eaters as far reaching as humanity itself, "There is no joy, but calm?" It is contrary to human nature to crave for stimulants. The idea is absurd, and the more one knows human nature and its history the more one wonders how such a name as stimulant could be given to any substance which has had so powerful an influence on the human race as alcohol. It might be known that anything so craved after must be of a soothing, benumbing, or dulling nature. People say they feel better after taking alcohol. Of course they do; one does feel better.

If any of you, whilst working up for your college or hall, get down-hearted, and take a glass of wine or spirits, I have no doubt you feel better; but would you go on with your work? or, would you not go to sleep, or take the newspaper and sit over the fire? If a man have a racking pain in his head, a strong glass of brandy and water will often drive it away—a proof of its narcotising effect on the brain. A man worn out with anxiety and pain, does he want a stimulant to increase these feelings? Is he not making use of a misnomer when he takes a stimulant to drown his sorrows in the bowl? Do not the lower orders, as in an Irish wake, know the benumbing influence on grief? Is it likely they would have recourse to drink in order to increase their susceptibilities? If it were a stimulant, it would bring out our faculties; but, instead of this, it paralyses our intellect, and then allows all the bad passions to have free play. This is the meaning of *in vino veritas*, just as a madman loses his will and control by his higher faculties becoming paralysed.

An immense evil has been perpetuated by giving alcohol a wrong name. It is called a restorative and stimulant; but this it is only to a very slight extent and under special circumstances. Its general effect, and that for which it is almost universally used, is for its benumbing action. I want you to think of it as a depressant, an anæsthetic and narcotic rather than as a stimulant, and you will then get an insight into its injurious effects on the human body.

As a medicine, of course, it is a good one. It is excellent as a sedative. After trying opium and chloral without success, alcohol will often give a good result in the severest neuralgia. It lowers the temperature in febrile conditions, sometimes two or three degrees. This is especially the case in typhoid fever and pneumonia. A quick pulse and high temperature call for it. There was an old man in this state last year in the ward, and I believe his life was saved by the large quantities of brandy that he took. It seems to prevent tissue-change, and large quantities seem to make a person fat. There was one case of it in this hospital some time ago, of a woman who had suddenly taken to drinking spirits, and became inordinately fat. It is curious that, with all my reluctance to order alcohol unless I clearly see its necessity, I never find any one but myself order spirits of wine as a food in order to promote the growth of fat; but its effects in this respect are very striking. Little children wasting away, such as those who are not suckled, may have cod-liver oil and steel wine given them, and yet still waste; but, if put on alcohol, will often get rapidly fat and well. I have seen several such cases.

What are the effects of alcohol if taken in excess?

Now I am not going into the subject of drunkenness, but may mention that some of the effects are possibly due to the impurities put into the spirit. In Paris there is a terrible liquor called absinthe, and patients are often being brought into the hospitals mad through intoxication from it.

Then, besides ordinary drunkenness, we have dipsomania—a disease for which many want to legislate. The subjects of this are not, for a time, responsible persons. They feel a craving coming on, and sometimes have strength of mind to go at once to a medical man and ask him to take them into his house, or shut them up in a lunatic asylum to restrain them from committing themselves. I once had a clergyman in a country district affected with this under my care, and he had nearly ruined himself. When the fit came on, he used to go to the village ale-house, and take glass after glass until he was drunk. Now, knowing when the fit is approaching, he rushes away from his home and takes the train for London. There is no use in talking to that man; he is as well informed as you; he merely asks for assistance.

Then there is chronic alcoholism, bringing about dyspeptic and other symptoms only too well known. I have no hesitation in saying, although I am speaking against the evil effects of alcohol, that a considerable part of my income is derived from the drinking propensities of my patients. Every day some young man comes to me with mottled face, yellow eye, and red tongue, saying the first thing in the morning he is sick, and the vomit sometimes streaked with blood; his bowels are loose, and he does not eat his breakfast. I have then heard quite enough to inquire how much whisky or sherry he takes at 11 A.M. You may have observed that whisky has taken the place of brandy in the medical dietary. I have failed to discover the reason, so I suppose it is a secret of the distiller's. He of course remembers well the ominous hour of eleven, and you then have only one duty to fulfil—*i.e.*, to tell him he is killing himself; and, if that be his object, he had better continue in his course. If not, he must desist; and you will assist him in his endeavour.

If the practice continue, the liver undergoes cirrhosis, and the kidneys become granular, and in some cases there is a special tendency for the cerebro-spinal system to be affected. Thus, in delirium tremens, long before the attack, a man is foolish and half-witted, what is called a good-natured fool. The brain wastes, and weighs several ounces less than it should. The spinal cord also is attacked, and a paraplegia may result, so that the popular saying is quite true, that some persons get drunk in the head, and others in the legs. The effect on the head is very well known; that on the spinal cord does not appear to be so readily recognised.

I saw a friend's wife some time ago who was dying from alcoholic poison, and yet he allowed her to have a little, just to keep her alive for a few days longer. I stopped it altogether, and she was sitting at her dinner-table a fortnight afterwards. Why not stop it all? The patient is saturated with the poison, and therefore the sooner he is free of its deleterious influence the better. I have been in practice a great many years, and I have never seen, nor have I heard, although making inquiries, of any harm resulting from the sudden and complete withdrawal of alcohol. What do surgeons of prisons tell us, who have a dissipated class of people put on bread and water? or the medical officers of workhouses, who put the tramps on "skilly?" They say they never see delirium tremens. It used to be said that delirium tremens and other evil effects follow the sudden withdrawal of alcohol; but I have never met with such a case, nor do I know anybody who has. If it be said that the patient will not eat, nor take anything else but stimulants, let him go without eating. One of the worst cases of apparently hopeless drunkenness I ever saw was in a fellow-student. He was in bed, drinking brandy and champagne. He knew my voice, but could not see me—was what is termed blind drunk. I would not have anything to do with him until the wife promised to have all wine and spirits taken out of the house. This was done. By-and-by he asked for some, but could not get any given him; then he tried to get up, and tumbled out of bed on the floor, where he was very sick. He then went to sleep, and, on waking, wanted something to drink, and a little beef tea was given. The following day or so he took some meat, and was soon driving about in his brougham, seeing his patients. That man would have died had he been left in the hands of his friends. As to medicines, I am very fond of the medicine I prescribed in this case—nitric acid, capsicum, and nux vomica. The latter seems to give tone to the stomach, and the patient also seems roused by it. I believe it is a favourite constituent of the draughts they style "pick-me-ups," sold in the chemists' shops at the West End of the town.

The time has now expired, but one might go on for a week lecturing on the effects of alcohol. In conclusion, let me address you, as members of our noble profession, to endeavour to use all your influence to put a stop to this growing evil, this horrible curse of drink. More solemnly still I am bound to add, with this example before us, do not for self-interest be blindly guided by your patients' wishes, and especially by women who have arrived at the change of life, and order them stimulants or allow them to continue in the excessive use of what you find them already taking. You must clearly see they are following an artificial system, which must soon have its end. I have, unfortunately, seen too many instances of this disastrous method of treatment. We witness the commencement of a plan which is thought to be only a temporary measure, but which soon becomes a habit, and the end can be as clearly foretold in two or three years' time as any other natural event. Be always careful how you order the so-called stimulants.

Scientific Notes from Foreign Sources.

GLYCERINE LAUDANUM.

By M. Bellevret.*

The solubility of extractive matter in glycerine led the author to substitute 100 grammes of glycerine for the same volume of Spanish wine directed in the Codex to be used in the preparation of Sydenham's Extract. The product was of remarkable density and depth of colour. It has been made over twelve months, has kept its colour perfectly, and formed comparatively little precipitate. The author submits that, apart from chemical considerations, the change may be regarded as in all respects a desirable one.

IODIDE OF STARCH AS AN ANTIDOTE.

By Dr. Bellini, Florence.†

Observing that iodide of starch is free from the unpleasant taste and irritant properties of iodine, and can therefore be taken in strong doses by weak stomachs, the author states that numerous experiments have shown that at the ordinary temperature of the human stomach and in presence of the gastric juice it combines with most poisons, forming therewith either insoluble compounds or soluble compounds, which are innocuous if not present in excess. It is especially useful in cases of poisoning with sulphur, ammonia, alkaline and earthy sulphides, and the various alkaloids. It is recommended, too, for its safety in cases of poisoning where the cause is unknown.

PARCHMENT FOR PLASTERS.

The *Apoth. Zeitung* says that the inconvenience often arising with soft plasters from the plaster detaching itself from the material on which it is spread in unrolling may be entirely obviated by substituting parchment for the fabrics ordinarily used.

PRESERVATION OF EGGS.‡

The sure and simple method of keeping eggs sound by smearing the shells with linseed oil has long been practised. The oil forms a sort of film over the shell, thereby preventing the two immediate causes of decomposition—evaporation from and penetration of air into the egg. A recent experiment in point deserves notice. A dozen new-laid eggs were rubbed over with linseed oil applied with the tip of the finger; another dozen were coated in like manner with poppy oil; two more eggs were left in their natural state. The whole 22 were then laid close together, in three rows, on dry sand upon a shelf, where they were left undisturbed. At the end of three months they were weighed, and again at the end of six months, when they were opened. The two eggs left in their natural state at the end of three months had lost 11 per cent. of their weight, and at the end of six months 18 per cent., and were found to be half empty and the contents rotten. The eggs coated with poppy oil in three months lost 3 per cent., and in six months, 4½ per cent. of their weight. The eggs were still full, and devoid of unpleasant smell. The eggs rubbed over with linseed oil in three months lost 2 per cent., and in six months 3 per cent. only of their weight, and when opened were found to be full, with the smell of fresh eggs.

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* *Repert. de Pharm.*, January 10, 1877, p. 9.

† *Repert. de Pharm.*, January 10, 1877, p. 17, from *Giornale dell' Acad. Med. di Torino.*

‡ *Pharm. Centralhalle für Deutschland*, January 4, 1877.

TASTELESS PREPARATIONS OF IRON AND QUININE.*

The Apotheker Rozsnyay, of Arad, Hungary, whose tasteless preparations of quinine have already proved of considerable value, has lately brought out two new preparations of quinine and iron in which the taste of the ingredients is equally well disguised. One is in the form of a powder, which can be kept on the tongue for several minutes without the taste of either the quinine or the iron being in the slightest degree perceptible. The other is made up in the shape of pastils or bon-bons, of round, convex figure, 1·5 cent. in diameter and 7 mm. thick, with a sugary taste. An analysis by Dr. Hager shows each pastil to contain 0·05 gramme hydrate of quinine (combined with tannic acid) and 0·059 gramme oxide of iron (in the hydrated form). Numerous cases are cited in which these pastils have been administered to children and young females, with the promptest and most beneficial results. For children of four to five years, one pastil every two or four hours was given.

GOA POWDER.†

Da Silva Lima states that he has found the most useful preparations of goa powder, in cases of skin disease (*see* Chemist and Druggist, April, 1876, p. 128), to be the ointment and the extract, prepared according to the subjoined formulæ:—

Ointment.

	Grammes
Aroba	2 to 4
Acetic acid	1 to 2
Adeps	30

Extract.

Digest aroba 25 grammes in acetic acid 100 grammes.

EDIBLE FUNGI.‡

Dr. Husemann, of Gottingen, calls attention to the large proportion of proteids and of certain salts contained in many of the commonest edible species of fungi, and suggests that it would be possible to obtain from them an extract which should have all the alimentary and therapeutic properties of the best extractum carnis, but be much cheaper. As examples in point he mentions that the analysis of various fungi by Kohlrausch and Siegel, in the Laboratory of Agricultural Chemistry, at Gottingen, in 1864–69, gave the following results:—

Boletus edulis.—100 parts dry substance contain protein 22·82, mannite 5·14, fat 1·98. Ash contains 50 95 potash salts, 20·12 phosphates.

Cantharelles cibarius.—Protein 10·68, mannite 28·43, fat 1·38. Ash contains 48·75 potash salts, 31·32 phosphates.

Clavaria flava.—Protein 24·43, mannite 4·81, fat 2·13. Ash contains 51·47 potash, 35·07 phosphates.

Tuber cibarium.—Protein 36·32, fat 2·48. In ash 55·97 potash, 30·85 phosphates.

Agaricus campestris.—Protein 20·63, mannite 4·93, fat 1·75, convertible sugar 7·13. In ash 15·43 phosphates and 50·71 potash salts.

In some species the percentage of protein is higher still. The average of *Morchella esculenta* is given as 35·18 per 100 parts of dry substance, and that of *Morchella conica* as 29·64. It appears to vary with the locality, age of specimen, &c. In some instances the percentage in *M. conica* was 45·49 per cent. The average of ox-beef, it may be remarked, is, according to Kohlrausch, 38·69 per 100 parts of dry substance. Some of these species occur in such abundance in the woods of North-west Germany that a single individual in many places could collect cwts. in the course of a few hours. Care and discrimination of course would be requisite, but Dr. Husemann considers the difficulties in this respect would be no greater than in distinguishing the leaves of various plants largely used in materia medica.

PRESERVATION OF FRUIT, LEAVES, &C.

De Luca states (*Repert. de Pharm.*) that fresh fruit may be kept for a time in closed vessels, whether the air-space within the vessels be filled with carbonic acid, hydrogen, ordinary atmospheric air, or be a vacuum. But fruit so situated undergoes a slow process of decomposition, in which various gases are evolved and alcohol and acetic acid formed, even without the presence of a ferment. Where the air pressure within the case is very great the process of gaseous evolution is of course impeded. Flowers and leaves behave like fruit under the same conditions. It is therefore possible to keep fruit (and leaves and flowers also) for some length of time in closed vessels filled with carbonic acid, or hydrogen, or common air, so long as the air pressure within is high enough: but such preservation is at best incomplete; decomposition is not wholly arrested, and although external appearances may remain unchanged, the flavour and perfume will be found to have more or less deteriorated.

SOLID CONSTITUENTS OF MILK.

Maonier de la Source* observes that the determination of the proportion of solid matters in milk by the ordinary method of evaporating at 100° C. is unreliable.

The method of Madame Brès, which consists in slow evaporation of the milk in a flat dish, appears to give satisfactory results, when the weight of the residue after 4 to 5 hours' evaporation is increased by 3 per cent.

During evaporation the milk sugar is converted into caramel and ulmic compounds, and the butter oxidised, by which a certain increase of weight is caused in the residuum.

CHROMATE OF IRON.

The *Pharm. Handels-Blatt* says there are only two manufacturers of this article on the Continent. One is the Chemical Works at Hrastnigg, in Stiermark, which turn out 6,000 to 8,000 cwts. annually; the other is in Russia, the establishment of P. C. Uschkoff, at Elahog, government of Viatka, where Siberian chromatic iron ore is used.

PETROLEUM IN GERMANY.

At a recent meeting of the Natural History Society of Hamburg a paper was read by Dr. Meyn, of Uetersen, "On the Petroleum Springs of North-west Germany." It appears that indications of petroleum are very abundant along the line followed by the railway between Hanover and Brunswick, and extend partially into Holstein. Some of the wells have been worked on a limited scale for centuries, and are still productive.—*Pharm. Handels-Blatt.*

ANOTHER ANTISEPTIC.

Dr. Zöller, in a late number of the *Deutsche Industrie Zeitung*, states that carbon disulphide in a state of vapour is capable of acting as a powerful antiseptic. Two drops allowed to evaporate spontaneously in a closed vessel of the ordinary temperature were found to keep meat, fruit, vegetables, and bread in a perfectly fresh condition for several weeks. The articles submitted to the process acquire neither smell nor taste, the carbon disulphide evaporating entirely when they are exposed to the air at the ordinary temperature. The vapour of carbon disulphide being very inflammable all experiments on its antiseptic properties should be performed during daylight.

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* *Pharm. Centralhalle für Deutschland*, January 4, 1877, p. 4.

† *Pharm. Zeitung*, January 13, 1877.

‡ *Pharm. Handels-Blatt*, January 17, 1877.

* *Zeitschrift für Oesterreich. Apoth.-Ver.*, from *Journal Med. de Bruxelles.*

A NEW RE-AGENT FOR MORPHIA.[*]

By Professor Selmi.

Morphia extracted from the viscera in medico-legal cases contains foreign matters sometimes impossible to separate. These prevent the yellowish-red coloration by nitric acid and the blue one by ferric chloride. Morphia reduces iodic acid, producing a reddish-brown colour; but it is important to note that visceral extractive, soluble in amylic alcohol, acts in the same way, and may deceive the experimenter. M. Selmi thinks that iodised hydriodic acid is more certain than other re-agents for indicating morphia under the conditions indicated. This acid forms with the alkaloid crystals so characteristic and definite that their formation almost alone suffices for the recognition of it. It must be remarked, however, that to obtain this result it is necessary that the morphia be separated from the extractive matters. Glacial acetic acid may be usefully employed in the research for this alkaloid. A mixture of this acid and of finely powdered minium is agitated for a quarter of an hour and filtered. A drop of the filtrate is placed on a glass plate, under which is a sheet of white paper, and two or three drops of an aqueous solution of acetate of morphia are added to it, and dried at a gentle heat. A small round stain is thus obtained of dried acetate of morphia. It presents at first a slight yellow tint, which gradually passes through a bright yellow to yellowish-red. As the acetic acid evaporates the yellow tint becomes violet, and assumes the colour of wine lees. The other alkaloids of opium do not give this reaction.

APIOL.[†]

By E. von Gerichten.

In the preparation of oil of parsley by distillation of the seeds with water, there passes over besides the terpene a body which gradually separates in fine needles. This is the so-called parsley camphor or apiol. Homolle and Joret give the name apiol to a mixture of various bodies which they obtained as an oil of a greenish-brown colour by extracting parsley seeds treated with litharge, with alcohol and ether. They propose this so-called apiol as a substitute for quinine in therapeutics. It is at least permissible to retain the name apiol for the crystallised ethereal oil—parsley camphor.

The same body may be obtained direct from the seeds by extraction with alcohol, distillation and digestion of the residue with ether; apiin remains undissolved, whilst apiol passes into solution. Apiol forms very long, white, brittle needles, having a faint smell of parsley. It fuses at 30° C. and boils at 300°; specific gravity, 1·015. It is insoluble in water, but dissolves readily in alcohol and ether. The fused apiol requires weeks and even months for perfect solidification, although by solution in alcohol the original crystals may easily be obtained again. According to Lindenbom's comparison, the results of analysis by various chemists find their simplest form of expression in the formula $C_{12}H_{14}O_4$ ($C = 64{\cdot}8$; $H = 6{\cdot}3$; $O = 28{\cdot}8$ per cent.). Additional points of support for the acceptance of this formula might be adduced. Sodium has no action on fused apiol. Concentrated sulphuric acid dissolves it, forming a blood-red colour (a precise reaction); water precipitates from this solution a brown body, which forms a bluish green solution with alkalies, gradually becoming dirty brown. Concentrated aqueous potash solution does not affect apiol. By twelve hours' heating of apiol with alcoholic potash solution, and afterwards diluting with water, rhombic plates with the lustre of mother-of-pearl gradually separate. These are purified by re-crystallisation from alcohol. A further product of this decomposition could not be recognised. The new body melts at 53·5° C. and re-solidifies at 46° C., does not dissolve in water, but dissolves readily in alcohol and ether. It is not acted upon by aqueous potash solution; by careful oxidation with chromic acid mixture beautiful needles of a body which was not examined further were obtained; with potash permanganate, crystalline plates were separated, fusing above 100° C. With chloroform and concentrated sulphuric acid the body obtained from apiol and alcoholic potash yielded a coloration, beautiful red violet at first, afterwards becoming green.

ON WOOD OIL OR GURJUN BALSAM.[*]

By M. Flückiger.

The essential oil of the balsam of *Dipterocarpus* or Gurjun balsam may be characterised in the following manner: If to a solution in 20 parts of bisulphide of carbon 1 drop of a cold mixture of sulphuric and nitric acids be added, a beautiful violet coloration will be manifested. The presence of the resin or of balsam of copaiba does not prevent the reaction; crude Gurjun balsam behaves like the essential oil, even if it be mixed with more than eight times the quantity of copaiba. This reaction therefore effects the detection of Gurjun in copaiba. The same conditions being observed, cod liver oil and essence of valerian will also give a violet coloration, but this will be transient; distillation will separate the essential oils from cod liver oil. The reaction has been verified upon several wood oils obtained from different species of *Dipterocarpus*; there exist differences of composition between these products comparable with those between different species of *Abies*. For example, M. Werner, in 1862, described a wood oil deviating the plane of a ray of polarised light to the left, whilst the balsams examined by M. Flückiger deviate it to the right. The balsam of *Hardwickia pinnata*, Roxb. (*Leguminosæ*) is used in Southern India for the same therapeutic purposes as balsam of copaiba; it gives no coloration when tried by the above test.

PURIFICATION OF CARBON BISULPHIDE.[†]

By M. L. H. Friedburg.

The author prefers the following process to those which have been published hitherto. The carbon bisulphide is distilled over some vegetable fat—palm oil, for example. The liquid obtained is deprived of the greater portion of the original impurities, and this fact has been known for a long time; it is, however, charged with a little fatty substance drawn over in distillation. To free it from this the partially purified bisulphide is poured into fuming nitric acid, which dissolves the fatty matter and completely destroys it, the two being digested together with occasional agitation for 24 hours. The sulphide is decanted, washed with cold water, and again distilled, the washing and distillation being repeated if the first operation does not yield a product which is not coloured rose by iodine.

MEDICAL GLEANINGS.

The *Practitioner* for February leads off with an article by Dr. Broadbent, extolling the virtues of Dr. Warburg's tincture. This from the pen of the author of "The Application of Chemical Principles in Explanation of the Action of Remedies and Poisons" is not a little surprising. We had hoped that after the publication of its antediluvian formula this nostrum would have been banished into chaos, along with mithridate, diapente, philonium, and the philosopher's stone. But, like the snowdrops, it is here again. It is astonishing to witness the avidity with which the members of a learned profession devour a nostrum if its introducer can legally put Dr. before his name and charge an extortionate price for it. Here we have a tincture containing about the same quantity of quinine as the Pharmacopœial tincture, with the addition, as far as medical activity is concerned, of a little aloes, opium and rhubarb, and aromatics (?) *ad nauseam*, retailed at four shillings and sixpence per ounce! We should be glad if some member of the House of Commons would move for a return of the amount of money expended on this nostrum for the use of our troops and other officials in India during the last ten years. We should also be glad if either the *Lancet* or the *Practitioner* would appoint a commission to investigate the merits of Dr. Ding Dong's Revivifying Drops, and suggest that a grant be made from the public funds for the purchase of a sufficient quantity of the same for trial in all the London hospitals.

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The happy inhabitants of Whitechapel and St. George's-in-the-East are to be envied. The following, according to the

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[*] *Journ. de Pharm. et de Chim.*, December, 1876, from *Gazz. Chim. Ital.*

[†] *Pharm. Zeitung*, December 27, 1876, p. 862, from *Ber. der Deutsche Chem. Gesell.*

[*] *Journ. de Pharm. et de Chim.*, November, 1876, p. 421.

[†] *Journ. de Pharm. et de Chim.*, November, 1876, p. 428.

Medical Press, is the copy of a handbill recently circulated in that locality. We like the idea, and hope to see it extend:—"No more trouble about hospital letters. No more waiting among out-patients. Your favourite doctor for about one penny a week. Medicine and attendance, if necessary, at your own home. Whitechapel and St. George's-in-the-East Medical Club. Inhabitants may have attendance and medicine from either of the following doctors: Dr. Loane, 1 Dock Street; Dr. Mahoney, 300 Commercial Road; Dr. Morrison, 57 Cannon Street Road; Dr. Sequeira, 34 Leman Street; Dr. Swyer, 32 Brick Lane; and Dr. Taynton, 247 Commercial Road. Payments.—For each person between 16 and 18 years of age, 5*d.* a month; for each person over 18 years of age, 6*d.* a month; for a man and his wife, 8*d.* a month; for each child under 16, in a family where a parent or guardian is a member of this or a benefit club, 4*d.* a month. More than three children in a family need not be paid for.—Apply at 194 Commercial Road, on Tuesdays and Fridays from 8 to 9·30 in the evening."

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The last issue of the *Medical Times* contains a curious statement in reply to a correspondent. The editor says:—"We are in no way responsible for advertisements appearing in this journal." We beg respectfully to differ from him.

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A correspondent of the *British Medical Journal* sends the following as a "literary" curiosity. Dr. Whalley is the most "literary" man we have heard of lately. "Westfield House, Mirfield, ... 187 . Mr. ——, ... Dr. to Dr. Whalley, M.A., M.D. Erlangen, D.R.C.S., L.S.A., LL.M., M.B.M.R.A., England, 1855, by examination and diploma; formerly Assistant at the Leeds General Infirmary; Senior in Honours, Leeds School of Medicine; Registered 1859. No connection with the Medical Council. Not registered since 1865. Graduate in Medicine and Arts, University of Erlangen.—Folio. . . . . Not registered."

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It is announced that Mr. Erasmus Wilson, F.R.S., proposes to bear the expense of transporting Cleopatra's Needle from its Egyptian domicile to the site on the Thames Embankment. He has, it is stated, entered into a contract with a firm of engineers, who undertake the task for a sum of 10,000*l.*, which is not to be paid unless and until the work is accomplished. Query—May anyone with ten thousand pounds to spare set up a monument to himself in a London thoroughfare if he please?

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The researches of physiologists appear to become less and less flattering to man as science progresses. The genus *homo* has barely recovered from the humiliating speculations of Mr. Charles Darwin regarding the descent of man, when Dr. Lawson, the lecturer on physiology at St. Mary's Hospital, comes forward with the annoying assertion that, after having carefully examined a large number of microscopic preparations of blood corpuscles made by Dr. Woodward, he has not the slightest hesitation in saying that the blood of man is by our present means absolutely undistinguishable from the blood of a dog, or, he adds with a refinement of cruelty, from that of a guinea-pig.

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Sir William Fergusson, whose portrait we gave in a group of eminent medical baronets last month, died last Saturday, the 10th inst., a little short of 69 years of age. From an obituary notice in the *Times* we may add to the brief sketch of his career we then gave a few interesting details. When quite young Fergusson became noted in Edinburgh for his skill and dexterity as an operator, and upon the removal of Mr. Liston to London, in 1835, he was left with no rival in his own department, excepting Mr. Syme. In 1840, when King's College Hospital was established in London, the rival institution, University College Hospital, had so largely profited by the accession of Mr. Liston, and by his fame as an operator, that the Council of King's not unnaturally turned their eyes northward and made proposals to Fergusson. After some negotiation he accepted the post of surgeon to the hospital and the Professorship, and settled in Dover Street. Having at first no professional following, and with the expenses of a family pressing upon him, he, like others, found the road to success a steep and difficult one, and it was only the possession of some private fortune through his wife which enabled him to hold his ground. Before long, however, medical practitioners began to flock to King's College Hospital in order to witness the performance of operations with a dexterity equal to that of Liston, and with a certain finish and carefulness which Liston had never displayed.

Fergusson was in many respects much aided by fortune. Sir Astley Cooper died, full of years and honours, in 1842; Liston was cut off in his prime in 1847; and Aston Key, the most brilliant operator of the day, fell a victim to cholera in 1849. Sir Benjamin Brodie, who had never been remarkable as an operator, was glad in his later days to commit many cases which required the use of the knife to the hands of younger surgeons, and thus Fergusson soon found himself almost without a rival in London in his own department of the profession. He was fully equal to the position in which he was placed, and rose rapidly in the estimation of the public. His fine handsome person and winning manners were passports to the confidence of his patients, and his unhesitating adoption of ether and chloroform, as soon as these agents were introduced into practice, not only enabled him to accomplish more than had been possible to his predecessors, but to do this without the infliction of pain. His powerful hand rendered him especially fitted to deal with large and formidable tumours in a way which had never before been attempted, and, at the same time, his refinement of touch gave him great advantages in the performance of more delicate operations, amongst which those for the cure of deformities of the mouth, such as hare lip and cleft palate, were particularly remarkable for the improvements which he introduced, and for the increased success which attended them. His greatest surgical work, however, was in the treatment of diseased joints, and generally in the treatment which he called by the apt name of "conservative surgery." To him is almost entirely due the modern practice of removing the actual disease of a joint only, in cases which, before his time, would have been treated by amputation of the whole of the affected limb.

His character as a surgeon was both enterprising and cautious. Fully reliant upon himself, he could often venture to perform operations which others had declined to undertake; and his perfect self-possession in the most trying emergencies has more than once converted into a surgical triumph what might in other hands have been a catastrophe. Deliberate in his movements, he yet completed his work more rapidly than more showy operators; since no action of his hand was thrown away, and no step had ever to be retraced. Thoroughly painstaking in his attention to details whenever such attention was likely to contribute to success, he despised the fussiness of complicated instruments and apparatus, and employed the simplest means for the accomplishment of the ends which he had in view. With an apparently intuitive knowledge of what ought to be done in a given case, he was not fond of long explanations or elaborate statements either to patients or to their friends; and his favourite phrase that he would "do a little something" was often applied to some of the most formidable proceedings in surgery. The immediate cause of his death was renal disease, from which he had long suffered, insomuch that his recovery was almost despaired of in the spring of 1876.

⁂

A new style of cab has recently been constructed by Messrs. F. & R. Shank, of Great Queen Street, on the suggestion of the late Sir Wm. Fergusson. The "Linton," as this new cab is called, after Sir William's seat in Scotland, differs from the old Hansom in this—that everything is exactly reversed. The body of the cab is turned completely round, and the passenger sits with his back to the horse. The makers of course claim certain advantages for their new construction, but for our part we fail to see that any of them counterbalance the extreme objection which most persons will have to be driven whither they know not. To get in or out, it is claimed, will be a less awkward and a less unclean business than it often is now. The draught will of course be less, and less inconvenience from rain may be expected than in riding with the face towards the horse. It is supposed, too, that the horse, like the rider, will also suffer less from "draught," though we scarcely understand on what principle this theory is arrived at. The opportunity of viewing the writhings of humble pedestrians who had ventured to come in the way of reckless drivers might perhaps be added to the charms of the new invention, which we fear is hardly likely to add to the well-won fame of the distinguished surgeon.

THE CHEMIST AND DRUGGIST

☞ *For particulars of Advertisements, Subscriptions, &c., please refer to the first page of Literary matter. An Index to the Advertisements contained in this issue will be found in the front portion of the Journal.*

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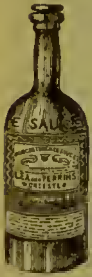

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Editorial Notes.

FRENCH BEVERAGES.

THE gradual voluntary poisoning to which the French population were so much addicted a few years since seems, if anything, to be on the increase, notwithstanding the many and repeated warnings of the medical profession in that country. To be told that a certain aliment or beverage is, in habitual use, deleterious, and probably dangerous to the general health, seems with the majority of our French neighbours to suggest its more profuse employment. The abundant consumption at table of the red Bordeaux and Bourgogne is insufficient for their ever-thirsty palates. Beers, sherries, Madeiras, the favourite "British B. and S.," as well as diluted "Irish" or "Scotch," possess few charms to the continental mind, and even Cousin Jonathan, though fond of his moderately strong "morning revivers," the renowned "cocktails," "Bourbon Sour," or "Johnny Collins," stands aghast at the druggy dose which seems necessary to revive the faculties of a Frenchman at the matutinal hour. Civilians are not far behind the army rank and file in patronage of the toothsome "Absinthe," the turbid "Bitter," or the "Vermouth gommé." To those legitimated horrors need only be added the pretended brandies, whose real parentage may be traced to the potato crop, "Armagnac," a vitriolly factitious Cognac, and another more powerful juice of the brandy type—"Marc." Peppermint is pressed into the service also in the form of "Bitter-Menthe," "Menthe-gommée," "Absinthe-Menthe," and numerous other precious combinations.

Of cordials there is no end. Religious communities, hidden away in their old monasteries, carry on the distillation of indigenous herbs with an enterprise which savours of the world, worldly, and which often results most successfully. The "Bénédictine," "Trappistine," and "Chartreuse" cordials are those best known to fame, but they are only types of many others striving after an equal celebrity. Secular initiative supplements the work with countless liqueurs, such as anisette, curaçao, kirsch, kummel, &c. That useful stimulant and aromatic berry, coffee, is imitated in a thousand forms in the vile and sometimes poisonous "Mazagrans" which the modern *limonadier* has invented for his willing victims.

Ostensible antidotes to the injurious effects of all these beverages are not wanting: the carelessly fabricated "Eau de

Seltz" is consumed in startling quantities, and the legion of the natural mineral waters are patronised to a wonderful extent. Vichy, St. Galmier, Marcols, Pullna, Bonnes, Enghien, Vals, and numerous others, go to swell the list of the millions of bottles annually poured down the throats of our friends across the Channel.

"Coffee as in France" is one of the temptations which is nearly sure to win the heart of a genuine cockney. That good coffee is to be got in France is undeniable, and there are spots even in Paris where it may be tasted; but perhaps a good half of the beverage which answers to that title on the Boulevards is as innocent of its indictment as is the "Cognac" which accompanies it. The taste of the British acorn is not unfrequently manifest, and what besides is concealed by that adulterator's friend, burnt sugar, heaven and the *cuisinier* only know. As for water, that is a subject with which the municipalities, engaged as they are in the fixation of the *octroi* duty on wines and spirits and cordials, can hardly be expected to study. Sir Richard Wallace hit the nail on the head when he caused to be erected in Paris at his own cost those many hundred elegant bronze pagodas from which an ever-flowing stream of Nature's peerless beverage flows.

In view of all these active influences, need we wonder at the occasional gentle aberrations of our neighbours, or at the prolific ills which give so much occupation to the French medical profession.

AMERICAN STARCHES.

The American States are a fruitful source of starch production. The northern counties of the States of New York and Vermont are largely devoted to the potato cultivation, from which a cheap and valuable product for manufacturers is derived in immense quantities annually. We have seen samples which had as beautiful a grain as the best Bermuda arrowroot, while in colour they were much whiter. Many families use this potato starch for preparing desserts in the place of cornflour starch, which is about double the price, and it is sold by many chemists as a cheap arrowroot, being much superior to the St. Vincent and Florida products.

Formerly the starch for laundry purposes was made from wheat, but of late years maize or Indian corn has been used, and the business of starch manufacture has come to be one of a very extensive character, affording large profits, the grain being so abundant in the prolific West. Large mills exist at Oswego, a port on Lake Ontario, also at Cleveland, on Lake Erie, and at many other points. It is hardly necessary to add a fact now so well known, that all the popular maizenas, cornflours, and similar dietary family articles are nothing more than starches derived from Indian corn reduced to powder and put up in the small packages one sees in the grocers' shops.

EAU DE COLOGNE AS AN ANÆSTHETIC.

At a recent meeting of the Nice Society of Medicine, Dr. Hugues presented some observations upon the anæsthetic influence of Eau de Cologne, which he had recently noticed. In one instance, that of a young lady afflicted with tubercular consumption, and with whom injections of morphine and the use of chloral had failed to produce the desired repose, a friend suggested a trial of Eau de Cologne, which she had already used with success in similar circumstances on some twenty different occasions. An immediate experiment was made by placing a handkerchief well moistened with Cologne under the nostrils of the invalid, who, in the space of seven minutes, sank into a profound slumber. The same experiment was repeated in another case in the same family, with a like result. The sleep lasted from half an hour to an hour. During the inhalations the pulse remained at 75, and there was no period of excitation.

M. Hugues had not made prolonged experiments. He thinks the anæsthetic effect of Eau de Cologne should be looked for as proceeding less from the alcohol than from the various odours, or rather from the combination of these essences in the perfume. This effect of perfumed spirits has previously been noted, but a fresh mention of the experiment may lead to other essays, furnishing more conclusive results.

AN IMPROVED BAROMETER.

At the last meeting of the Physical Society, Professor Guthrie exhibited an arrangement by which the sensitiveness of the mercurial barometer is enormously increased. The two vertical limbs of an ordinary syphon barometer are united by means of a long horizontal tube of uniform bore, having a diameter considerably less than that of the main tubes. The instrument is filled in the same manner as the ordinary syphon barometer, except that a bubble of air or liquid is left in the narrow tube. The length through which the bubble moves will be in inverse proportion to the cross areas of the horizontal and vertical tubes, so that each inch of rise and fall may be shown through any number of inches by diminishing the cross area of the horizontal tube. A moment's consideration will show that for a given increase of pressure the absolute amount of mercury which passes from the shorter to the longer tube depends upon their cross area, and as this is greater in comparison to that of the tube uniting them, the range of motion of the bubble will be considerable in comparison with that of the summit of the mercurial column. In the instrument exhibited the horizontal tube was bent into a spiral in order that the vertical tubes might be in close proximity. The diameters of the tubes were 6 and 2 millimetres respectively. A complete account of this instrument will be found in the *Philosophical Magazine* for the present month.

THE OPIUM TRADE WITH CHINA.

In a recent issue of the *Echo* appeared a vigorously-written narrative, by Mr. Henry Crompton, of the British policy in China in regard to the importation of Indian-grown opium into that Empire. The story is not one for Englishmen to be proud of, but it is one that Englishmen should be acquainted with. It is a story, says Mr. Crompton, in which commercial lust and political aggression on the part of England have to be contrasted with the wise, moderate, and statesmanlike conduct of the Chinese Government. For a long time the Chinese Government had forbidden the traffic, but from the earliest days of the East India Company it had been encouraged on our side for the sake of the revenue. In 1836, however, the Chinese Government made a serious attempt to extirpate the evil, which it was seen was threatening the ruin of its population. The Japanese had succeeded in stamping out the trade, and the Chinese authorities hoped to gain the same result; and they would, no doubt, have attained their most praiseworthy object if it had not been for the commercial avarice of England. For more than two years the Chinese authorities endeavoured to effect their purpose by peaceful means; but the smuggling went on, with the connivance, if not with the encouragement, of the British superintendents of trade. "At last" (we now quote from Mr. Crompton) "when it became clear that remonstrance was in vain, the Chinese Government did what was right, and what any firm Government would have done, and was bound to do. A Special Commissioner arrived at Canton in March, 1839, on purpose to carry out the law. He at once issued an order commanding foreigners to deliver up all the opium they had within three days. When this time had elapsed, the foreign factories were blockaded by Government boats. The inhabitants were shut in, and told that they would not be allowed to leave until the opium in the receiving ships had been given up. It ended in Captain Elliott's ordering the merchants to give up the opium to him, and he delivered the whole of it, amounting to 20,283 chests, to the Chinese authorities, who caused it to be destroyed. This was the cause for which England declared war against China. For deliberate wickedness, for utter disregard of all morality, this war is without parallel. There have been many wars entered upon without justification, or for the purpose of self-aggrandisement; but never was there a war, till this, to compel a nation to poison itself for the lust of commercial gain. Unhappily, England was thoroughly successful. The terms of the Treaty extorted were:—That five ports were to be opened for British trade—Canton, Amoy, Foochow, Ningpo, and Shanghai; that the island of Hongkong should be ceded to Great Britain, and that the Chinese should pay 6,000,000 dollars as the value of the destroyed opium, 3,000,000 dollars on account of debts due to British subjects by Hong merchants, and 12,000,000 dollars as an indemnity for the expenses of the war. This," the writer concludes, "looked at solely as a question of national guilt, the deliberate forcing of opium upon the Chinese people, by war and threat of war, for forty years, is a crime without parallel in the history of man, a crime which ought to make every Englishman worthy the name of citizen strive personally to his very utmost to compel our Government to make atonement and free our great nation from so hateful a reproach."

THE REGISTRATION OF TRADE MARKS.

From a table in a recent issue of the *Trade Marks Journal* it appears that the net result of a year's work is the registration of 260 marks. The exact number of applications made during the year just expired is not given, but it transpired in a recent Chancery action that they had already exceeded 12,000. The fact that only 260 applications out of 12,000 have been completed is most grave. After July 1 no legal proceedings are possible unless the trade mark in question be registered, and it is now perfectly certain that the registration cannot be accomplished in time, under the present system at all events. The whole question demands the most searching investigation, and it is stated that there is some probability of a Select Committee being asked for in Parliament.

CAVEAT EMPTOR.

According to the law, as it has lately been decided by the Court of Appeal, the old legal maxim which requires purchasers to take care of themselves must be interpreted in an even more extended sense than some of us have been aware of. A swindler named Blenkarn pretended to start in business in Wood Street, Cheapside. In that street there is an old-established firm, styled Blenkiron & Co. Blenkarn obtained goods from firms by sending orders signed Blenkarn, but so written that the signature looked as much like Blenkiron. Unsuspectingly, some firms supplied goods, believing they were selling to Blenkiron. All this was proved some time ago, when Blenkarn was convicted of having bought goods under false pretences.

One of the persons thus victimised was a linen manufacturer of Belfast, named Lindsay. The goods which Blenkarn obtained from Lindsay he had sold to a third party, named Cundy. Lindsay sued Cundy for the value.

The jury before whom the case was first tried found that Cundy had bought from Blenkarn without any knowledge of the fraud. The question was therefore remitted to the Court of Queen's Bench, whether, having purchased the goods in a *bonâ fide* manner, Cundy could be held liable for the same to the original owner. The Court of Queen's Bench gave judgment in favour of Cundy; the plaintiff appealed, and the Court of Appeal has reversed the judgment.

This may be accurate law, but it is likely to be very awkward for commerce. Observe—Lindsay is swindled, and Cundy, an outsider altogether, has to bear all the loss. But, perhaps, Cundy sold that linen to fifty different country drapers. Surely, according to this judgment, he has his remedy against them. The retailer, in his turn, we suppose, has his remedy against the hundred customers to whom he may have distributed the linen, and thus there seems practically no end to the litigation which such a decision might authorise.

TRADERS' BOOKS.

Much interest has been aroused by a suggestion, made recently by Baron Huddleston, that there should be a law compelling all tradesmen to keep their books on one uniform plan, as a safeguard against fraud. The theme has been sensibly discussed by a Manchester man, and there are few thoughtful business men who will not concur with him. He says, as to the learned Baron's suggestion:—"It is hardly likely to be carried out in England, for many reasons; still I think our legislators might do something in this direction. Some enactments of this kind might perhaps do more to make a good bankruptcy law than anything else, for what are the worst features in a bad bankruptcy? One is that the bankrupt has been continuing his business long after all his capital was lost, greatly to the injury of himself and every one else; the other, that his accounts are in such a state of confusion that no one can tell where the money has gone or what the assets are. It seems to me that a bankruptcy law should strive hard to prevent these two things, and to compel the trader to keep good accounts and to stop when he had lost all his own money. The law need not compel every one to keep his accounts in the same form; but it might oblige every trader whose returns exceed a certain amount to keep a cash book and ledger, and what other books he thinks necessary; and more particularly a balance-book and stock-book for stock-taking—the balances and full particulars of stock to be entered in these books at least every six months. In case of bankruptcy the non-production of these books should render the bankrupt liable to imprisonment; or if it appeared from the books that the bankrupt had been carrying on business for any considerable time, say twelve months, after his entire capital was lost, he should be punishable in the same way. No doubt there would be difficulty in carrying out such enactments, but they are as certainly well worth trying as many things that have appeared in our bankruptcy laws. A good effect would be produced by the mere fact of the law stigmatising it as injurious to society and punishable for a man to go on losing other people's money after he has lost his own." Nor are we disposed to think that the mischief arising out of a want of complete book-keeping, in the encouragement which it affords men to go wrong, is confined to that phase of the question. Not long before Baron Huddleston made the recommendation we have cited, Mr. Rupert Kettle, judge of the Worcestershire county courts, speaking at a public meeting in Wolverhampton, regretted the little attention which was given to book-keeping in the school courses and in the after adult education. Wanting a complete knowledge of book keeping, many traders in his district of county courts had, Mr. Kettle maintained, suddenly found themselves insolvent, when they had imagined that they possessed the means of paying every creditor 20*s.* in the pound. It would be well if these utterances should lead men who are giving others somewhat extensive trust to ascertain how they are conducting their book-keeping; better still if it should cause traders to precede the giving of trust to beginners by satisfying themselves how their would-be customers propose to keep their books.

THE EFFECT OF GLASS GLOBES ON GAS-LIGHT.

The desirability of protecting the flame of gas when burned in a room is obvious, but it should always be remembered that the advantages thereby obtained are secured at the expense of a certain proportion of light. This was shown recently in a paper read before the Newcastle-on-Tyne Chemical Society by Mr. John Pattison, who had noted the following results from experiments, all made with a light equal to fifteen standard candles:—

	Illuminating power	Percentage of light lost
Naked flame	15·00	—
Clear glass globe	12·80	14·65
Ground glass globe	11·40	24·00
Opal globe	9·00	40·00
Another opal globe	8·16	45·60
" "	8·00	46·70
" "	6·64	55·90
" "	8·00	46·70
" "	7·48	50·10

The advantage arising from the use of globes or moons is that they diffuse and soften the glare of the naked light, which is sometimes oppressive to the eyes. Of the opal globes Mr. Pattison considered the dead white semi-opaque one should be avoided. He recommended, as perhaps the best form of globe, that with a wide opening at the bottom, which allows a considerable amount of light to be reflected downwards from the white surface of the inside of the glass.

CUTTING OFF THE COFFEE.

Ladies and gentlemen who depend upon the Pharmaceutical Society's *conversazione* for their annual burst of gaiety are sorrowfully informed that, although it is likely that the *soirée* will be held as usual, it is this year to be deprived of its luxurious commissariat accompaniments. *Soirée*, according to Sam Weller, was French for boiled mutton and turnips. In the scientific vocabulary it has come to signify cool coffee and dry cake, with very occasional apparitions of strawberry ice. But now even these very moderate material comforts are to be denied us. Only those who have gazed with philosophic thoughtfulness on the refreshment bar at a scientific *conversazione* can appreciate the melancholy which will settle on the eminent crowd when they seek for nourishment and find none. We have seen strong men struggling with undisguised earnestness for a morsel of the coveted refection, and we have watched fair dames who have turned with weariness from the ennobling strains of martial music, from the fascinations of South Kensington art, aye, and even from the dazzling shirt fronts of the pharmaceutical councillors themselves, and who have only smoothed out the wrinkles from their marble brows when, on a crowded, uncomfortable bench, they have at last grasped the long-coveted cup. It is not for us to guess what intellectual substitute the council will provide in place of the time-honoured luxuries; but we here record our solemn prediction that their recent resolution sounds the doom of the series of their *conversaziones.* We most sincerely hope this may be the case. Money subscribed for quite other purposes could not be more needlessly spent. Mr. Williams says it would be a great disappointment to the ladies to discontinue these gatherings. We cannot bring ourselves to believe that a dozen ladies in Great Britain care twopence for the pharmaceutical *conversazione,* though it may be true that many are gracious enough to pretend they do. But even if the case should be otherwise, we doubt the expediency of the Pharmaceutical Society burdening itself with the somewhat costly duty of ministering to the pleasures of a sex which it has persistently refused to recognise officially.

COMMERCIAL LEGISLATION.

The two prominent items of commercial legislation suggested in the Queen's Speech last week have become such fixtures in these documents, that the promise to deal with them no longer excites any more than the most passing interest. A vigorous attempt to rectify the bankruptcy laws would reflect credit on any administration, but it will need to be more radical than the mere codification of the Acts which at present exist. The most effectual way to introduce a reform in our commercial life in this respect would be to take the regulation of liquidations entirely out of the hands of the creditors themselves, and to cause all cases of insolvency to be sifted by judges appointed expressly for that purpose, who, hearing both sides, would without difficulty separate misfortune from recklessness, and both from fraud. The Sale of Food and Drugs Act has caused the term fraud to be somewhat more lightly applied than it was previously, and there is no reason why dishonest debtors should not get the full benefit of this innovation.

It is but rarely that a sufficient majority of creditors cannot be secured to settle a liquidation case on the terms which best suit the debtor's good pleasure. A small creditor, whose loss may be very serious to himself, is either laughed or voted down if he attempts to press his claim too obstinately. On the other hand, it is not right that a majority should have the power of tyrannising over an unfortunate debtor; but this very seldom happens. A judge who was at the same time uninterested and competent would be more likely to grant justice to both parties, and if we could in some way frighten reckless traders from too easily incurring debts which they will never be able to pay our commerce would be revolutionised.

The Attorney-General has already unfolded the most prominent features of his scheme for improving our patent laws. Briefly, he proposes to reduce the cost of a complete specification from 25*l.* to 12*l.* 10*s.*, further duties, however, being levied, as at present, during the subsequent period of the patent; such period to be extended from 14 to 21 years; the Crown to pay for use of patents; commissioners to be appointed to examine proposed patents selected from the commercial and manufacturing classes; the Lord Chancellor to have the power of revoking unemployed patents, and of compelling patentees to grant working licenses in cases where such may seem desirable for the public benefit; and an appeal to lie from the law officers of the Crown to the Lord Chancellor.

It is too early to discuss this scheme, but it may be remarked here that the apparent bad working of the patent laws is often due to the incompetence and unworldliness of the patentees themselves. There is a really good commercial opening for a company on something like the basis of the Credit Foncier, which should devote itself to the art of introducing and exploiting new inventions, with a due regard to the remuneration of the inventor. Such a company would be a real providence to poor inventors, and if skilfully managed might prove a lucrative employment of capital.

REVIEWS

AND

Literary Notes.

Aids to Botany. By C. E. Armand Semple, B.A., M.B. London: Baillière, Tindall & Cox. 1877.

A BRIEF outline of the science, meant for students who wish to group their facts previous to undergoing an examination. The leading elementary facts of botany are epitomised in its pages, appended to which is a description of the most important natural orders. It has the advantage of an index, and may be of service to those for whom it is specially intended. This class of abstract manuals has of late been wonderfully on the increase. So long as they serve as aids, and not as substitutes, they may be accepted as useful compilations.

Questions and Answers on Materia Medica, Medicine, Midwifery, Pathology, and Forensic Medicine. By W. Douglas Hemming, M.R.C.S. London: Baillière, Tindall & Cox. 1877.

THIS little book contains a series of well-extracted answers to questions that have been put by various examining boards on the subjects mentioned in the title. It is intended for the use of students about to pass their medical examinations, and will be found useful for the condensed information it contains. No pretension is made for originality, but the answers appear judiciously selected from larger standard authorities. The sections on the practice of medicine and midwifery are equally concise and clear.

The Proceedings of the American Pharmaceutical Association, 1876.

WE have received from Philadelphia the annual report of the proceedings of the American Pharmaceutical Association, the members of which continue to exhibit the same patient industry and love of their art which has always distinguished this section of the pharmaceutists of the United States. Nor can we omit to notice in this place the editorial skill which this volume evidences. The discussions on the various papers read at the meetings of the association, for instance, read like verbatim reports of speeches of orators who have attained the utmost nicety of conciseness in expression. We can hardly suppose that all American chemists have this most desirable accomplishment, and we must, therefore, give the editor of the "Proceedings" credit for the style in which this portion of the report is presented. The volume contains a handsome steel portrait of the late John Milhau, of New York, of whose career we gave a brief sketch in THE CHEMIST AND DRUGGIST two years ago; then follows a well compiled report on the progress of pharmacy from July 1, 1875, to June 30, 1876, written and edited by Mr. C. Lewis Diehl. For the first time in this section of the work, Mr. Diehl follows the example set in the English "Year-book of Pharmacy," of summarising in his compilation an introductory narrative, which is worth careful reading. The reports of committees, the papers presented to the association, and the discussions following these are given in order. From a reader's point of view we may remark here that it would be much pleasanter if the discussions were attached to the papers, instead of being printed in separate parts of the book—a system which seems to have some occult virtue in the eyes of more than one pharmaceutical editor. The volume contains also an appendix of permanent value, consisting of the report drawn up by a specially appointed committee on the exhibits of interest to pharmaceutists in the Centennial Exhibition. Professor J. P. Remington, the writer of our own letters on the same subject, was chairman of the committee. Although this report occupies 130 pages of small type, it is necessarily only an epitome; but the exhibits are classified, and occasional remarks add to the value which it must possess as a record of the grand collection of drugs, chemicals, and apparatus which was brought together last year in Philadelphia. Among the references made in this report to British exhibitors we find that Mr. S. Perks, "Lavender Farmer," of Hitchin, has his account of lavender culture quoted in full. The specimens displayed by Messrs. T. & H. Smith, of Edinburgh, are said to be "the rarest and finest collection of chemical products in the British department." Messrs. J. & E. Atkinson will probably be gratified to learn that in the opinion of this committee "the majority of their labels are of that quaint and ugly style to which we have become accustomed on their White Rose Extract." The Patent Plumbago Crucible Company, of Battersea, are said to have "had a remarkably fine display of crucibles, furnaces, &c., made with a care and attention to detail not usually seen."

Elsewhere will be found other extracts from this valuable volume.

Anthracen. By G. Auerbach; translated by William Crookes, F.R.S., &c. London: Longmans, Green & Co. 1877.

MORE than forty years ago, when Dumas and Laurent isolated anthracen from coal tar—somewhat imperfectly, it is true—they can scarcely have thought that they had then laid the foundation of a new industry, destined to acquire great commercial importance. The most far-seeing could not have predicted that an insignificant chemical curiosity would yet prove of such scientific interest and technical value as to demand a special work such as Auerbach published a few years ago. Surely anthracen affords an excellent example of the national importance of pure scientific research.

This translation of Mr. Crookes's is from a revised manuscript copy containing much additional matter not in the original German edition. It embraces the entire literature of the subject, from the first isolation of anthracen to the production of the most recently obtained derivatives. The various methods that have been employed for the preparation of such substances as are of commercial interest are given in detail. The methods that have been suggested for the analysis of crude anthracen are examined, and the worthlessness of the alcohol and carbon bisulphide methods is very properly pointed out. The author is of opinion that with proper precautions Luck's method may be made to give very accurate results. A considerable amount of space is devoted to the madder plant, and to the dyes obtained from it. The artificial production of the principal colouring matters of the root is, of course, the central point of interest in the work. This subject forms one of the most important chapters in the whole history of organic chemistry, and the manner in which it is treated cannot fail to interest the scientific reader, while it is all that the technical chemist could desire.

Mr. Crookes has conferred a favour on English readers by placing this important work within their reach.

IN the fifth volume of the ninth edition of the "Encyclopædia Britannica," now publishing by Messrs. Black, of Edinburgh, appears the article on Chemistry. The writers are Mr. F. H. Butler, who traces the history of the science; Dr. Armstrong, who treats inorganic chemistry; and Mr. Meldola, who writes the section on organic chemistry.

THE "YEAR-BOOK OF FACTS," published by Messrs. Ward, Lock & Tyler, and edited for many years by the late painstaking Mr. John Timbs, now appears in a sensation-novel style of dress, and is evidently designed by its editor (Mr. James Mason) to be of a more popular character than it had been in former times. The articles, he says, have been selected with a view to general rather than special interest, and we should be the last to deny that in the collection of facts got together a good deal of instructive reading matter has been provided. But to describe the work as a year-book is almost too free a use of well-understood terms. It is a collection of paragraphs from some dozen or two journals, such as any general reader might have clipped, divided into twenty or thirty sections. These paragraphs may refer to a discovery or observation dating within the period which the volume professes to cover, but the chances are at least equal that the first source of the paragraph is of earlier origin.

A more useful and a more workmanlike piece of literary skill than the last-named is "The Annual Summary," by the same editor and publishers. This is a compilation somewhat after the character of "The Annual Register" and "The Statesman's Year-Book," but rather more popular in its style. It gives a very well arranged epitome of the history of the twelvemonths from October 15, 1875, to October 15, 1876, in various classifications. It seems a pity that the publishers could not have waited a few months and given the summary of the calendar year instead of fitting it to this odd period, but that is not a matter of great importance. The book forms interesting reading, and must be useful to many persons as a work of reference.

We have received from the publishers (Messrs. Dean & Son, 160a Fleet Street) the new edition of Debrett's "Peerage, Baronetage, Knightage, and Titles of Courtesy." It is in many respects a wonderful book; wonderful, for one thing, in the care and skill with which the information has been obtained and presented; but more wonderful still, in our opinion, as an evidence of the striking fact that there should exist such information to be compiled. What Victor Hugo has said concerning kings applies with still greater force to our machinery of peerage, with all its fantastic ceremonies and gradations of titular rank. That a giant should raise a pigmy on his shoulders and then worship that pigmy because of his higher position, is something which would be ludicrous in a land where an hereditary aristocracy had not taken such firm root as it has done in this enlightened country. The editor of "Debrett" remarks in his preface that "during the past few years the ranks of commerce have been substantially recruited from the younger scions of the aristocracy, and in the present volume there appears a large number of business addresses that have been voluntarily supplied." This is a matter of some moment, and may have more than one ultimate significance. There are two other paragraphs in the preface which are well worth referring to. One tells us that the order of *soi-disant* baronets is fast increasing, the title being especially in favour, it seems, with gentlemen who assume the position of directors of Limited Liability Companies. More pleasant than this is the eccentricity recorded of one baronet, who, it seems, is duly qualified, Sir B. C. C. Pine, who was created K.B. in 1856, and K.C.M.G. in 1871, but who has "discontinued the prefix of 'Sir,' to which he is now entitled, and now affects the plain style of 'Mr.'"

To the many tradesmen to whom a directory of the chief representatives of wealth and rank is necessary, "Debrett" is invaluable.

Correspondence

SIR HENRY THOMPSON.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—Surely your hosts of readers have welcomed the idea presented to them in the last number of your journal, full as it always is of business interest, of questions for young pharmacists to solve, of instructive admonitions to men in business, and of sound advice to young men going into business.

I have taken it for years, with great profit to my mental and other interests, and can, without doubt, assure my brothers in the trade that it is a valuable tonic which they ought to take once a month.

The idea to which I refer is this—you call it a "fancy." Be that as it may, it is a very happy one. You give us the portraits of seven eminent London physicians and surgeons, not "inheritors," but self-made men, unquestionably the noblest and most to be admired of our race. If you repeat such sketches, you will, I have no doubt, greatly increase your circulation and influence.

I write these few lines because I think it may interest your readers to know that Sir Henry Thompson *was* originally in the drapery business. The more to his honour that he now stands upon the pinnacle of surgical fame.

I had the great pleasure and advantage when quite a young man of being one of his companions and correspondents; and I shall ever bear in mind the pertinent question he asked me in one of his letters, "What new truth have you learned since I last wrote you?" Truly, a question we should all do well to ask ourselves day by day is this, "What new truth did I learn yesterday?"

Every one familiar with the tone and bearings of Sir Henry's mind at that period of his life would have given a forecast of his elevation in some department of science drawing largely upon a man's mental power and manual skill. At his request I introduced him to the late Dr. Bottomley, of Croydon, and under that gentleman Sir Henry commenced his curriculum of medical and surgical study. What has been the result of his devoted and ardent love of such studies the whole world knows.

Sir Henry Thompson has that loftiness of character which forbids him to forget the friends of his earlier years.

Faithfully yours,
Napier Lincoln.

Ely: January 31, 1877.

POOR AMERICA.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

Sir,—I have been led within the last few weeks to reflect upon the paucity of "my country's" products for medicinal purposes. Beyond denial we are in possession of the most extensive and prolific patch of territory upon the planet. But our trumpery forty-five millions of population are hardly able to "break ground" in the development of such a vast area. We raised in 1876 twelve hundred and ninety-five million bushels of corn, of the value of one hundred millions of pounds sterling—this is double the 1874 crop. Our cotton, hay, and wheat crops were probably equal to any former year; of coal we mined over twenty-five millions of tons; fruit of all kinds, potatoes and other vegetables in surprising quantities; our iron mountains produced all that the hard work of the hundreds of thousands of sturdy and well-paid miners could extract, while an equal out-giving came from the bountiful bowels of the earth. Silver and gold, quicksilver and petroleum, hogs, cattle, horses and wool, all in an immense abundance. These essentialities of our own daily existence as well as for exportation were developed within our borders by lavish nature and manly industry to an extent which the real statistics make to appear almost fabulous. Why we should be "poor," hard up, unable to buy in foreign countries—and scarcely able to pay for what we buy—is incomprehensible to most people. Our manufacturing branches are mostly in a full state of activity, extending their business outside of our own borders to a point hitherto not reached. We ought to be the greatest purchasing nation outside of Europe to-day (and the best pay), and I feel that confidence in the innate recuperation of the United States that I am of the opinion that the present year (1877) will offer a very wonderful revival of business. Our little political discussion in regard to the presidency once settled, as it must be in a few weeks, all minds will settle down to business with that fervour and restless, indomitable energy which the climate seems to produce. Europe can hardly understand these sudden reverses and revivals. We in America see them more clearly, perhaps, as they are. We know they are not, as far as the reverses are concerned at least, fundamental—passing episodes at the most, which wipe out over-trading and weak people, and leave the general body of business men healthier and stronger than ever. With such a boundless and fertile territory, which is so abundantly productive of the essentials of existence which command a sale for money everywhere, we can never be poor until the hard-working industry of the population has failed to apply the energy to aid generous nature in the development of her immense gifts.

When I began this letter, it was my purpose to dilate upon the many things we lack in these prolific States, while noting the products we are blessed with in abundance. For our *luxuries* we are still dependent upon Europe, and it is quite proper and profitable even that we should be so, as it is so much more advantageous for us to occupy ourselves with the staple articles which our land can supply in such profusion.

As noted in the outset, I see how dependent we are upon foreign lands for our medicinal drugs, as well as for the greater portion of the vast quantities of our chemicals for use in the various industries of the country. We have no alkaline products of consequence—these are imported to the amount of millions from England: of bark for quinine manufacture and opium for morphia and laudanum we are destitute. Resinous gums are entirely derived from Oriental lands. Madagascar and other places in the same latitudes supply us with the copal and other gums suitable for varnish manufacture. The larger portion of our dyes and dye-woods are of foreign derivation, viz., indigo, lac dye, logwood, fustic, and other similar woods; brimstone and sumac are from Sicily. All the essential oils for perfumery are imported; cream of tartar from Marseilles and Trieste. The spices — cinnamon, cloves mace, &c.—are from the East. Rhubarb, senna, scammony, cubebs, ipecacuanha, jalap, and liquorice are unobtainable at home; and aloes, anatto, copaiba, camphor, cardamoms, gamboge, myrrh, manna, nut galls, and many other items which could be mentioned, are of foreign growth. We are producers of a few vegetable drugs, but only a few—ginseng, largely exported to China, and by that peculiar people held, it is said, in especial reverence; oils of wintergreen, peppermint, sassafras, spruce, and a few others; beeswax, saffron, sassafras bark, Carragheen moss, and of late years borax and quicksilver. In oils and paints we are lacking olive oil, and to a considerable extent castor and linseed oils, the local production of these two latter being a quite inadequate supply; with cotton-seed oil we can and do supply the world, and perhaps much of it comes back to us rechristened.

For chalk we are an extensive customer to Albion; vermilion we get from the Chinese; red ochre from Newcastle, and yellow from Rochelle.

Thus it appears that while our prolific production of the great staples of existence goes on augmenting from year to year in a wonderful manner, we are subsidiary to other lands for the great medical necessities and for many also used in the arts and manufactures. Owing to climatic influences this must always be so, and I shall have sufficiently accomplished my purpose in writing this letter if I have succeeded in setting forth more clearly than dry statistical tables do the dependency of the American States on commercial centres of Europe, and on all the remote produce markets of the world.

January, 1877. D.

THE PRODUCTION OF PEROXIDE OF HYDROGEN FROM OILS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In your issue for September last, and in former numbers of your journal, I have seen notices of papers read by Mr. Charles T. Kingzett, F.C.S., before the members of the British Pharmaceutical Conference and other scientific societies, "On the Limited Oxidation of Essential Oils," in which he shows that oil of turpentine and certain other essential oils possess the property of absorbing oxygen from the air and converting it into peroxide of hydrogen. Now, although Mr. Kingzett's observations are very interesting, they are not original, as may be seen by a reference to an article in the *Medical Times and Gazette* for September 20, 1873, page 330, under the heading of "Old Friends with New Faces;" and also to another article in the same journal for March 14, 1874, page 308, which contains a review, by Dr. W. Bathurst Woodman, of a paper read by me before the Medical Society of Victoria, "On certain New Views regarding the Chemical Properties and Physiological Action of Fat," published in the *Australian Medical Journal*, November, 1873, in which I show that not only essential oils, but all fats and expressed oils possess the property of spontaneously generating peroxide of hydrogen when exposed to the influence of air and light.

I have the honour to be, sir,
Your obedient servant,
JOHN DAY, M.D.

Geelong, Australia: November 24, 1876.

SIR,—After closing a letter I had written to you regarding my claim to priority over Mr. Charles T. Kingzett in the discovery that certain essential oils possess the property of generating peroxide of hydrogen, I put my hand on *Public Health* for October 2nd and 9th, 1875, which contains a reprint of a lecture "On the Disinfecting Properties of Certain Substances in Every-day Use," delivered by me before the School of Science, Geelong, June 14, 1875. As this lecture contains positive evidence that Mr. Kingzett is not original in the views he has recently brought forward regarding the disinfecting properties of turpentine, I send you the copies of *Public Health* containing it, and shall deem it a favour if you will publish in your valuable journal such portions of it as will establish my claim to priority.

I have the honour to be, sir,
Your obedient servant,
JOHN DAY, M.D.,
President of the Medical Society of Victoria.

Geelong, Victoria, Australia: November 29, 1876.

[When Mr. Kingzett read his first paper on this subject before the British Pharmaceutical Conference at Bristol, in August, 1875, Mr. Robbins asked him if he had met with any account of the experiments of Dr. Day, of Geelong, and gave a brief *résumé* of these experiments. Mr. Kingzett said that he had not heard of these experiments (THE CHEMIST AND DRUGGIST, September, 1875).

That Mr. Day had published his observations previously to the reading of Mr. Kingzett's paper is therefore clearly proved, but that the subject of their discoveries is identical is not so obvious. Dr. Day records a series of very striking experiments as to the power of producing peroxide of hydrogen possessed by "all fats and fatty or expressed oils, nearly all perfumes, most if not all essential oils, kerosene, gasoline and benzine, and certain kinds of wood." What is still more remarkable, and especially worthy of attention, in the lecture which Dr. Day kindly sends us, is that on that occasion he showed some sheets of paper which had been brushed over two years previously with gasoline, and other paper which had been brushed over more than a year previously with eucalyptus oil, and both retained the power of evolving peroxide of hydrogen. We believe Dr. Day's observations have not yet received the attention they merit, though they have certainly not passed unnoticed. No one will dispute his claim to originality in these experiments.

Mr. Kingzett's researches, on the other hand, seem to us by no means even unconscious piracies of Dr. Day's. Mr. Kingzett has followed up the subject as a chemist, and his deductions bear the marks of patient labour and original thought. He shows the circumstances under which the peroxide of hydrogen is formed and the chemical changes which take place. Each investigator has followed his own line, and we believe this would be very manifest if Mr. Kingzett should himself favour us with a reply to Dr. Day's remarks.

It should be mentioned that, as Dr. Day notices in the lecture before us, "Schönbein was the first to observe that oil of turpentine could generate peroxide of hydrogen."—ED. C. & D.]

INFRINGEMENTS OF THE PHARMACY ACT.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

DEAR SIR,—I have read with much dissatisfaction the letters that have recently passed between the registrar of the Pharmaceutical Society and the secretary of the Chemists' and Druggists' Association, and the remarks and resolutions passed thereon at the recent meeting of the Pharmaceutical Council. It is to me a cause for much regret that some definite work cannot be done towards the suppression of infringements of the Pharmacy Act. I am personally acquainted with many cases of deliberate infringement. In the town where I reside (Sheffield) four, and I believe five, persons are selling poisons under a borrowed name—for lending which the Pharmacy Act provides no penalty; five or six under the title of patent medicine vendors and other similar disguises; two under "uncompleted" executorships; while some scores of grocers and small shop-keepers are selling infants' mixtures with opium, and paregoric without, sweet nitre at 2*d*. per oz., and tincture rhubarb ditto; and I have heard of one grocer who gets laudanum put up in 1-oz. bottles to supply to known customers. If you communicate these cases to the council, the matter generally drops through from inattention on their part, and if the matter is gone on with you have all the evidence to get for them. If the Chemists' and Druggists' Association is to become the voice of the trade, let every member of the trade join its ranks, so strengthening it that the Pharmaceutical Society will pay more respect to it. If they would still decline to co-operate, the association must, if possible, obtain power to carry out what apparently the society will not employ proper machinery to do.

Yours obediently,
A DISSATISFIED ONE.

THE TOWN OF AYER, a "new city" in America, has been presented with a handsome edifice, constructed after the designs of an English architect, for a city hall. The enterprising author of the Pectoral Pills, Sarsaparilla, and Hair Vigor is inclined to be lavishly liberal at the summit of his highly successful career.

LEGAL & MAGISTERIAL.

TAMAR INDIEN.

Is the use of the word "Tamar" an infringement of Trade Mark?

In the Chancery Division of the High Court of Justice, on January 19, the action of Grillon *v.* Guenin was heard before Vice-Chancellor Sir James Bacon. The plaintiff was Mr. Ernest Grillon, of Paris and London, proprietor of the "Tamar Indien," and the defendant was Mr. Emile Guenin, the manager in England of Menier's chocolate factory.

According to the evidence for the plaintiff "Tamar Indien" was the name he had applied to certain chocolate-covered lozenges which he had invented, and of the composition of which he alone knew the secret. He had introduced this some eight years ago, and had secured a large trade for it, his sale in England alone reaching 150,000 boxes in the year 1875. His English representative, Mr. F. C. Kinnear, had seen an advertisement some time back of American Tamar, which he believed had been inserted by the defendant, and on three separate occasions he had sent to defendant's place of business and purchased two boxes of the said American Tamar.

For the defence it was maintained that plaintiff had no exclusive right to the word Tamar; that this was a name in common use among French chemists and druggists; that it was also, though not to so great an extent, known to English chemists; that it was of Arabic origin, signifying in Arabic a date. The Tamar tree grows, it was said, both in the East and West Indies, in Arabia, Egypt, and Central America; but the Indian product having become the most general, "Tamar Indicus" became the ordinary Latin name for the fruit, from which had been formed our word tamarind. The defence also pointed out the word Tamar in the Bible (Ezekiel, ch. 47, v. 19, and ch. 48, v. 28), where it describes a city built by Solomon, and so named in consequence of the many date trees growing near it. The same city, it is believed, was subsequently called Palmyra.

The word was found in the "Dictionnaire Générale des Sciences" (Paris, 1867), Webster's "English Dictionary," Barnett's "Outlines of Botany" (London, 1855), Chambers' "Etymological Dictionary," Royle's "Materia Medica" (where the Arabic name is given as "tamr"), Hooper's "Medical Dictionary," Kitto's "Cyclopædia of Biblical Literature," Dorvault's "Officine," "The American Cyclopædia," Littre's "Dictionary," and Zedler's "Universal Lexicon."

The defendant therefore claimed that he had as much right to use the word Tamar as he should have to adopt magnesia, cocoa, or rhubarb, or the name of any other drug. He denied that plaintiff had invented the word, and he maintained that his boxes, labels, lozenges, and advertisements were drawn up with a strict view to keep up a distinction between his product and that of Mr. Grillon. He said also that he had sold only thirteen boxes of American Tamar, six of these being to emissaries of the plaintiff's.

Affidavits by chemists on either side were read to show that Tamar was and was not a name referring to a drug or only to plaintiff's product.

Mr. Kay, Q.C., and Mr. Romer appeared for the plaintiff, and Sir Henry Jackson, Q.C., and Mr. MacSwinney for the defendant.

The chief *vivâ voce* evidence given before the Court was that of Mr. Kinnear and of Mr. Guenin.

Mr. Fredk. Constantine Kinnear, manager in England for Mr. Grillon, proved having registered the words "Tamar Indien" as a trade mark. In answer to questions by Mr. Kay the witness produced specimens of orders received since February, 1875, in which the medicine was asked for merely under the title Tamar, as, for example, "Please send a dozen boxes Tamar," "Please send six gross Tamar," and others. He never sold boxes without the label or with any other label on them.

Cross-examined by Sir Henry Jackson, the witness said he had applied for registration of the trade mark on May 25, 1876. He had not yet got the certificate from the Trade Marks Registration Office, but he had the provisional receipt from the registrar. In answer to further questions witness said he was sometimes asked for "Tamar Indien."

Mr. Emile Guenin, examined by Mr. Kay:—I believe Mr. Guenin your business is chiefly the manufacture of chocolate?—No, I am an importer of French medicines.

Importer of French medicines and manufacturer of chocolate?—Yes.

When you commenced to sell "American Tamar," you were aware that plaintiff sold "Tamar Indien?"—Yes; had known it for the last seven years.

Have you seen any other lozenge except the plaintiff's and your own sold under the name of Tamar?—I have prepared some for my chocolate agent in New York.

Have you ever seen any lozenges in your life called Tamar, except those prepared by yourself and plaintiff?—Not to my knowledge.

In answer to further questions Mr. Guenin said he had used plaintiff's lozenges; had taken them as medicine; Mr. Grillon or Mr. Kinnear had given him several boxes. Did not know for certain how many lozenges were in each box.

How came you to make your lozenges of exactly the same size and shape as the plaintiff's?—Menier's chocolates are of the same size and shape.

How came you to make your Tamar lozenges so exactly the same size and shape as those of the plaintiff? Was it not to make them like his?—They are not the same shape.

Did you not mean to make them like his?—I cannot say it is so. I have made chocolate bon-bons of that shape years ago.

That is the only answer you can give? How was it you covered them with tin foil?—There is paper before the tin foil.

Why did you cover them with tin foil?—To prevent them from drying.

You were aware that plaintiff's were covered with tin foil?—I had seen them and therefore must have been aware of it.

How was it you came to make your box so nearly the same size as plaintiff's?—I intended the box to be sold retail at 1*s*., and I made it a proper size to get a fair profit.

Did you not adopt your word Tamar from having seen that word on plaintiff's box?—No; I know the word Tamar, and had heard it from many chemists.

In conjunction with plaintiff's lozenge?—At the same time with it.

Did you ever in your life hear the word Tamar used before you began to make this lozenge, except in conjunction with plaintiff's box?—I do not think I did; I do not recollect; I did not take particular notice of it.

In reply to Sir Henry Jackson defendant said he had wrapped up the lozenges in tin foil to keep them from getting dry; that he used tin foil every day for chocolate lozenges; that every article in chocolate must be wrapped in tin foil to keep nice. He had enveloped medicines in chocolate for America. Had been asked to do so.

Sir H. Jackson:—Now about these boxes. Are you familiar with the boxes in which lozenges are put up?—Yes, cardboard boxes.

(Showing one) Is this an ordinary pattern?—Certainly; very.

These are boxes ordinarily used by medicine vendors for lozenges?—That shape, but I have seen a good many not so good as that.

Was your intention to pirate the plaintiff's box?—Certainly not. I let him know I intended to compete with him.

Looking at those two boxes, would you or any ordinary dealer mistake one for the other?—No person of ordinary intelligence could do so.

Did you intend to prevent any such mistake?—Certainly.

In giving judgment the Vice-Chancellor said:—The question, as I take it, is one of law arising out of facts which are not in dispute. The law is very plain that a man may adopt any name he thinks fit for the purpose of distinguishing his commodities. He may use a fanciful name if he chooses, and if he use such name without question or interruption for any reasonable period he acquires a right which is a property which the law will protect.

I say there are no questions of fact in dispute. The plaintiff selected a fanciful name, not applying to any drug known to be in existence. I say this notwithstanding certain affidavits before me. Much time has been spent in etymological inquiries which have really nothing to do with the question. The word Tamar is not to be found in any modern dictionary, and it never had any application to any material used in making up medicine, except as an abbreviation of the word Tamarind. A jar has been produced with the word Tamar written in large characters, but it is followed by two round marks (:) to show that it was an abbreviation. Physicians, medical practitioners, and chemists in great number prove that the word Tamar is used to designate the plaintiff's invention, and for nothing else. The defendant himself states that he never knew or dreamed of Tamar until he found that the plaintiff (I am not using defendant's words, but this is the conclusion I draw from them) had established a valuable trade in lozenges, which he called Tamar. Does not this come within the repeated decisions of this Court in regard to fanciful, capricious, and sometimes unmeaning titles, as, for instance, in the case of "Eureka" shirts? The naked philosopher who, on making a discovery, rushed out of bed, shouting this word in the streets, had the good fortune afterwards to fix a name upon an article which he never possessed himself, and the law protects the name so adopted. In this case the plaintiff has acquired a property in the word Tamar as designating his commodity. The defendant chooses to copy that word for a commodity which may or may not be as good as the plaintiff's; of that I know nothing, nor do I require to know. The world is wide enough, and there are plenty of names by which the defendant can call his commodity. But there is no authority in law or in morals, upon his own statement, for his adopting the word Tamar, which had acquired a valuable signification in the commercial world. I quite agree with Sir Henry Jackson that there is no similarity between the two boxes, but the plaintiff relies upon the fact that the defendant advertises a commodity of the same nature and producing the same medicinal effects as he ascribes to his own, and calls that article by the identical name which he has adopted.

In my opinion the plaintiff is entitled to the protection of his property. No harm is done to the defendant. He has not begun any trade. He has only sold thirteen boxes, of which six were sold to the plaintiff. He cannot reasonably complain of being restrained from using that which is the property of another man.

Sir Henry Jackson said, as he understood, His Lordship was with him except upon the word Tamar.

The Vice-Chancellor said he had no intention of being with him in any part of the case.

Sir Henry Jackson understood that in regard to the boxes the Vice-Chancellor had decided in his favour.

The Vice-Chancellor said the case had not depended upon that.

Mr. Kay said he did not care to ask for damages. Defendant said he had only sold thirteen boxes. If he sold more they should know what to do.

Sir Henry Jackson asked if His Lordship would consider the use of the word "Tamarind" legitimate, but the Vice-Chancellor declined to advise.

THE MANUFACTURE OF GLYCERINE.

In the Court of Common Pleas, on the 6th inst., the cause of Tuck *v.* Simpson, Payne & Co. was heard before Mr. Justice Lopes and a common jury.

Mr. Lumley Smith was the counsel for the plaintiff; Mr. Finlay and Mr. Sutton appeared for the defendants.

The plaintiff is an electro-plater and the defendants are glycerine refiners. The process carried on by the defendants demands a still of a peculiar construction. If certain tubes are made of any other metal but silver or gold they are liable to corrode and spoil the saleable value of the glycerine. The defendants, therefore, asked the plaintiff if he would undertake to plate with silver the interior of a set of tubes. The work required considerable skill, but the plaintiff succeeded in carrying out the defendants' instructions, and the still was used by the defendants. Only three charges of glycerine were passed through, and it was then discovered that the silver coating was destroyed. According to the evidence of the plaintiff oxalic acid had been used in the defendants' process, and certain chemical results ensuing, the damage to the tubes had occurred. The defendants denied that they had ever used any oxalic acid, but contended that the plating had been carelessly done, inasmuch as the tubes had not been properly cleaned before the silver coating was deposited. The same tubes had since been plated by Elkington & Co., and had not corroded when the defendants' process was carried out. The plaintiff now claimed the price of plating the tubes, and the defendants set up a counter-claim for the damages resulting from the still being stopped while the tubes were being replated. A large amount of scientific evidence was gone into on both sides, with a view to showing the means by which the glycerine was refined at the defendants' works.

The jury found a verdict for the plaintiff for the amount claimed, and against the defendants on the counter-claim.

BRAND'S ESSENCE OF BEEF.—DENCE *v.* MASON.

In the High Court of Justice, Chancery Division, on Jan. 25, before Vice-Chancellor Sir Richard Malins, a motion was made on behalf of Thomas Dence and John James Mason, who carry on business in Little Stanhope Street, Mayfair, under the title of Brand & Co., for an injunction to restrain the defendant, Frank Mason, from selling any essence of beef, concentrated beef tea, meat lozenges, or other meat essences, in tins, skins, boxes or otherwise, having thereon labels or wrappers in imitation or only colourably differing from the labels or wrappers used by the plaintiffs, and from using the name of Brand, either alone or in combination with Mason or any other name, in connection with essence of beef or other articles manufactured or sold by the plaintiffs, from selling any of these articles in such manner as to represent or lead to the belief that the same had been manufactured by the plaintiffs.

The plaintiffs' firm originated about forty-five years ago, when it was conducted by Mr. Henderson William Brand, and was about the year 1855 acquired by Mr. Withall, who, on September 29, 1873, sold the same to the plaintiff Thomas Dence, for the sum of 5,000*l*. The business had always been carried on under the name of Brand & Co. The plaintiff John James Mason was for fifteen years employed as manager of the business, and the defendant, Frank Mason, who is a brother of the plaintiff J. J. Mason, was employed as a journeyman in the business for about fourteen years prior to March, 1874, when he left the plaintiffs' service. In January, 1874, the defendant entered into partnership with a grocer in Sloane Street named Robert Brand, and he then commenced the manufacture and sale of essence of beef and other articles under the style of Brand & Mason. An application was made to the Master of the Rolls in September, 1874, to restrain this use of the name of Brand, and by an arrangement between the parties the defendant agreed to continue his business under the style of Mason & Brand; but soon afterwards the partnership between the defendant and Robert Brand was dissolved, and Robert Brand required the defendant no longer to use his name in connection with the business. The defendant had, nevertheless, continued ever since to use his name, and the injunction now asked for was, as before mentioned, to restrain him from using the name of Brand any longer.

Mr. Glasse, Q.C., Mr. Bristowe, Q.C., and Mr. Freeman appeared for the plaintiffs; Mr. Higgins, Q.C., and Mr. Solomon for the defendant.

The Vice-Chancellor said it was very clear that when the defendant, Frank Mason, left the employment of the plaintiffs he sought out Mr. Robert Brand, who was a stranger to him, for the express purpose of using his name in the manufacture of beef, the name of Brand being well known to the public. There was nothing to justify him in that conduct; but, as Mr. Brand was actually partner, it was impossible for the court at that time to prevent the name being used. The use of the name since the dissolution of the partnership could only have been for an improper and fraudulent purpose, in order to induce the public to believe that the articles sold by him were, in fact, manufactured by the original firm of "Brand & Co." It was evident that this improper use of the name of Brand had been of very little service to him, since he was unable to pay the costs of the last application made to the court against him, which amounted to 48*l*. His Lordship saw clearly that as long as the defendant was allowed to use the name of Brand there would be no peace between the parties. It had been argued that the defendant had as much right to the use of the name as the plaintiffs, but this was not so, for the original style of the firm had been regularly assigned and had become vested in the plaintiffs. That objection entirely failed. He should therefore grant the injunction to restrain the defendant from using the name of Brand in the sale of this essence of beef and other articles manufactured by the plaintiffs. As to the imitation of the labels, that point was not pressed by the plaintiffs; and he thought it would be quite sufficient to do away with the name Brand, and Mr. Frank Mason could then sell his own articles under his own name and obtain a fair sale for them in a legitimate mode. Another question was of more importance, for it appeared that the defendant, knowing that the business of the plaintiffs had been carried on for so many years in Little Stanhope Street, Mayfair, found out a small chandler's shop in the same street, and arranged with the lady who owned the shop to strike her name out from the shop front and insert, "Agent for Mason & Brand's Essence of Beef," the words "agent for" being in small letters, and the other words being made large and prominent. This conduct, in His Lordship's opinion, was most improper, and was calculated to deceive the public. He should therefore, upon the principle of several decided cases, extend the injunction to the use of those words upon the chandler's shop, and this was the more necessary since there were six affidavits filed in the case by persons who had actually been deceived and induced to believe that the shop was that belonging to the plaintiffs.

Mr. Higgins asked that the order for the injunction might be suspended, in order that there might be time for the defendant to appeal.

The Vice-Chancellor said he would suspend the order for one month if within one week the defendant paid the amount due from him for costs; but, if the costs were not then paid, the injunction would be at once put in force.

THE TELEGRAPH PRINTING PROCESS.

A VERY ingenious and useful worker in the field of electric science died lately at a Home for Incurables in Scotland, after a chequered and sad career. This was Mr. Alexander Bain, formerly of Edinburgh, whose electric clock and telegraphic printing process have been the basis of several strikingly valuable accomplishments of science. Mr. Bain was the first inventor of electric clocks, and he first of all suggested the idea of working a clock by a pendulum moved by electricity. His scheme was not in all points successful, and it is said he lost much money in endeavouring to carry out his ideas. His electric chemical telegraph printing process, although temporarily discarded for the Morse or American system, seems yet destined in the hands of subsequent inventors and the rapid progress of science to ultimately supersede all others. Mr. Bain's telegraph differs from Morse's only in having the printed marks (dots and dashes) brought out on a strip of paper previously soaked in a solution of nitrate of ammonia and prussiate of potash. A steel pencil presses gently upon the moving surface of the paper, and on the electric current passing through the paper, the solution is decomposed, and a distinct blue line, the length of which is dependent on the duration of the current, is the result. This system was worked with much success by the Electric and International Telegraph Company for several years, but in consequence of the inconvenience of preparing the paper, especially by unskilled persons, it was replaced by the Morse, the marks in which were at that time punctured by a movable "stylo," but now printed by a small revolving ink-wheel beneath the paper. The Morse, however, although a very efficient system, cannot compare with Bain's in regard to delicacy of recording; indeed, the speed of the former is limited to about 40 words a minute, while the latter is capable of recording many hundreds in the same period. Wheatstone employed it as an improved recorder for his well-known self-acting system; but it has been left to an American, Mr. Eddison, to utilise it to the greatest extent, and shew what it is capable of accomplishing. By the employment of several wires and an automatic transmitter, the almost incredible speed of upwards of 1,000 words a minute has been attained—"This being done," remarked Sir Wm. Thomson at the British Association meeting at Glasgow, "by the long-neglected electro-chemical method of Bain, long ago condemned in England to the helot work of recording from a relay and then turned adrift as needlessly delicate for that."

We notice in an Edinburgh paper that Messrs. T. & H. Smith, manufacturing chemists of that city, claim a not inconsiderable share in the invention of this telegraph-printing process. They say that after Mr. Bain had worked for some time at his process without success the matter came before them. The solution used by Mr. Bain for damping the paper upon which the messages were to be impressed was that of the yellow prussiate of potash, slightly acidulated with sulphuric acid. The decomposition resulting, when the paper thus impregnated was submitted to the action of an electric current which had previously travelled some distance, proceeded so tardily that the instantaneous and continuous impressions which were indispensable were frequently wanting. For two years (Messrs. Smith continue) all the skill and concentrated attention which Mr. Bain devoted to the subject failed to solve the difficulty; and, only after taking us into consultation was the method discovered which put this, the keystone, upon his invention. We employed two electrolytes before succeeding. The first failed; the second, nitrate of ammonia, proved successful. This chemical compound exactly met the necessity of instantaneously liberating its acid in its most powerful—the nascent—condition at the very moment of exposure to the electric current. Mr. Bain lost no time in putting our method to the proof, and the first message printed by electric telegraph, in a manner which put the process to a practical test, was transmitted from Glasgow to Mr. Bain's office in Hanover Street, over the wires of the then Edinburgh and Glasgow Railway Company, and consisted of the name and address of this firm. Mr. Bain sought by the offer of a fee to purchase our share in the invention, but the compensation he offered was declined. At this time, what nitrate of ammonia he required he received from us in previously-prepared solution; but he was entirely ignorant of the chemical substance contained in the solution, until—presumably—having caused the solution to be subjected to analysis, our connection with the matter ended.

THE NEW SCHOOL OF PHARMACY in Paris is to be built in the Luxembourg grounds. It will cover a superficial area of 15,000 mètres, and will be large enough to receive 600 pupils. The cost will be 3,200,000 francs (128,000*l.*).

THE "PHARMACIE NORMALE," one of the largest and best known of Parisian pharmacies, situated in the Rue Drouot, was recently sold by auction to liquidate a co-partnership for a sum rather over 8,000*l.* sterling.

THE FRENCH GOVERNMENT has bestowed the red ribbon of the Legion of Honour upon Dr. John Faure, a highly respected English practitioner, who has resided for many years in Paris, for exceptional services in the hospitals and otherwise.

ARTIFICIAL IVORY.—The patent taken out by B. S. Cohen, of London, thus describes the method of the manufacture of this article:—Ivory dust is boiled with water to a jelly, and to this is added some shellac dissolved in alcohol and some oxide of zinc. For every pound of ivory, one ounce each of shellac and zinc oxide is taken. The pulpy mass is poured into forms, allowed to become dry in the air, and then subjected to hydraulic pressure. The finished material may be cut, sawn, and turned as well as natural ivory or bone.

ACID-PROOF PAINT.—The following recipe may be of value to some of our readers: The application of water glass or soluble silicate of soda to wood or metal utensils, to protect them from the action of corrosive bodies, is sometimes desirable, and this material, a correspondent in the *Polytechnisches Journal* tells us, may be used with little difficulty if you go the proper way to work. The wood or metal must be perfectly dry to begin with, and free from rust or any kind of fatty matter. Any of the pure mineral colours may be used for mixing with the silicate. Powdered lime, amounting to twenty or twenty-five per cent. by volume, is mixed with the pigment, and double as much water glass is then added. The mixture is then applied in the same way as ordinary paint.—*Scientific American.*

The Latest Lead Discovery.—A French journal, the *Moniteur de l'Hygiène*, has discovered lead in sewing-silk. Some manufacturers, says this authority, in order to increase the weight of their thread, soak it in a solution of acetate of lead, and afterwards expose it to the action of sulphurous vapours. As much as 23 per cent. of sulphate of lead has been observed in some specimens of silk.

Ambitious gentlemen need not sigh for the foreign degrees which have been so battered of late years. A more brilliant prospect opens for them in the advertisement which follows, clipped from a recent issue of the *Daily News*:—

> FOREIGN TITLES.—Gentlemen of Property desirous of obtaining the HEREDITARY TITLES of Baron, Viscount, or Count, should apply in confidence to Baron X., at C. H. May and Co.'s, 78 Gracechurch Street, London.

A Dangerous Material.—Within three years, says the *Commercial Bulletin*, there have been three shops destroyed in Massachusetts through lampblack. A hand damp with perspiration, a drop of water, a bit of grease, or a sprinkle of oil, will create combustion, which will start the lampblack aglow like charcoal, and so ignite the package, and hence the blaze. In lampblack factories, while great precaution is taken to prevent fires, a rainy or sharp frosty day will start a dampness upon the inside of a window-pane, and the flying particles of dust lighting upon this, create a spark which, communicating with the pile, may send a glow of fire with wonderful rapidity through the galleries of the shop.

A Petroleum Theory.—The formation of petroleum has been explained by Mr. H. Byasson, upon experimental grounds, as follows:—If a mixture of vapour of water, carbonic acid, and sulphuretted hydrogen be made to act upon iron heated to a white heat in an iron tube, a certain quantity of liquid carburets will be formed. This mixture of carburets is comparable to petroleum. The formation of petroleum can thus be naturally explained by the action of chemical forces. The water of the sea, penetrating into the cavities of the terrestrial crust, carries with it numerous materials, and especially marine limestone. If the subterranean cavity permits these new products to penetrate to a depth where the temperature is sufficiently high, in contact with metallic substances, such as iron or its sulphurets, we have a formation of carburets. These bodies will form part of the gases whose expansive force causes earthquakes, volcanic eruptions, &c. Petroleum is always found in the neighbourhood of volcanic regions or along mountain chains. In general it will be modified in its properties by causes acting after its formation, such as partial distillation, &c. Petroleum deposits will always be accompanied by salt water or rock salt. Often, and especially where the deposit is among hard and compact rocks, it will be accompanied by gas, such as hydrogen, sulphuretted hydrogen, carbonic acid, &c.

Tempering Glass.—Some considerable time has elapsed since De la Bastie first manufactured his tempered glass and obtained his first patent. Specimens of tempered glass are, we believe, to be bought at a few shops, but at present it does not seem to have taken that prominent position which was confidently predicted for it when it was first announced, and the reporters had seen specimens and tested them in the City of London. Other patents have had to be obtained in order to secure the modifications which M. de la Bastie has introduced; but despite the fact that he has at least three rivals in the field, the efforts to introduce the new glass into commerce are very feeble and badly supported. It is unquestionable that to De la Bastie belongs the honour of first bringing the art of tempering glass to a practical issue; but his rivals seem determined to forestall him in those improvements which will make the invention commercially successful. It seems that some difficulty is experienced with the bath of grease or paraffin which De la Bastie uses for tempering his glass; and he has had to devise a means of preventing the ignition of the inflammable constituents of the bath, which means has to some extent added to the complication of his process. In the presence of this difficulty other inventors found their opportunity, and besides the process invented by Herr Siemens, of Dresden, Herr Pieper has also devised a method of tempering and hardening glass, which is so far successful that the German glass-makers have given 15,000*l.* for the exclusive right to use it in their country. The new process consists of submitting the glass, while at a red heat, to the action of superheated steam, a process which of course effectually disposes of the difficulty and danger attendant on the use of an inflammable bath. Although the German glass-makers have purchased Pieper's patent, it does not appear that its practical success has been fully established, though it is obvious that if the superheated steam will effect the same changes in the glass as the dip into the heated oil of Bastie's bath, and effect them as rapidly, M. de la Bastie will lose that pecuniary reward which his discovery merits. The steam process, too, would appear to remove the difficulty which is found in tempering shaped articles of glass—a difficulty which Herr Siemens surmounts by making costly platinum sheaths or moulds, with which he protects the articles during the operations. Amongst the minor rivals of De la Bastie may be mentioned Herr Meusel, of Thüringen, who has so far modified the original process that he plunges the blown articles while still on the tube into the tempering bath, which is composed of similar substances to those employed by De la Bastie. The latter, on the contrary, shapes the articles in the ordinary way, and then re-heats them before plunging them into the tempering bath. The original process is not likely to suffer much from the competition of Herr Meusel, for it yields far better and more regular results in practice, as it is found that, however quickly the blown glass may be transferred to the bath, the portion attached to the blower's pipe or tube is so speedily cooled by the surrounding air that it is impossible to obtain the desired effects in the tempering bath. There are several modifications of the tempering process, including the English patent of Mackintosh, under which the glass is submitted to the action of a very low temperature; but, with the exception of the processes of Pieper, Siemens, and the original Bastie, none of them seem likely to soon furnish us with an article for which there is already an inquiry, and for which there will undoubtedly be a considerable demand if it can be supplied at a reasonable price.—*English Mechanic.*

Trade Notes.

Mr. Stedman, of Hoxton, calls our attention to the fact that in order to distinguish more perfectly between his powders and others, he now wraps his packets in yellow paper.

⁂

Mr. Grout, of Hereford, maker of the food-warmer noticed in our last, informs us that he has now adapted his invention to both the straight and bent bottles, as suggested by ourselves.

⁂

We have to acknowledge from Mr. Gustave Lenglet, druggists' sundryman, of Nottingham, a card containing a dozen penny packets of aniline or "Oriental" dyes, neatly mounted for display.

⁂

Mr. Mather, of London and Manchester, announces that he has purchased the machinery, plant, good-will, recipe, and sole right and title to manufacture Tomlinson's Cod Liver Oil Plasters, and that he is now prepared to supply them.

⁂

Last November we called attention to the use of spun glass in Germany and France as a medium for the filtration of strong acids, alkalies, nitrate of silver, collodion, and other chemicals. We now ascertain that the substance may be obtained in England from Messrs. Corbyn & Co., of Holborn, to whom we are indebted for a sample. The Germans call this article glass-wool, the French glass-cotton or silk. It has quite the appearance of a fine white silk, but has a crisper feel.

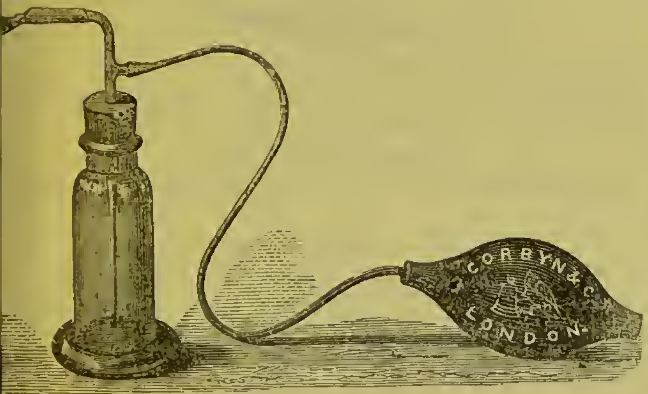
⁂

The National Chemical Company, of American origin, has established a depôt at Glasgow (see advertisement) for supplying chloride of lime in their patent packages, which are perfectly waterproof, air-tight and odourless. We imagine that any chemist who has been called upon to weigh out a quarter of a pound of this useful chemical in the middle of his dinner will thank us for calling his attention to the company's announcement.

Messrs. Mackey, Sellers & Co., of Bouverie Street, are manufacturing an excellent "coal tar soap" for toilet purposes. The tarry odour is very skilfully combined in this product, so as to be quite distinct, but not more so than will suffice to give a feeling of refreshment when applied to the face. They also manufacture in bars a soap much more strongly impregnated with coal tar, which may be used with great advantage either for personal application or for the washing of linen from a sick room, or in any case where it is desired to employ the virtues of coal tar in more appreciable and active form. Both soaps are evidently of the best quality.

⁂

Corbyn's Throat Spray.—The principle of this spray-producer, registered by Messrs. Corbyn & Co., of Holborn, is at once obvious from the drawing. It is easily managed and gives a fine spray. A special feature of the design is the tongue depressor, which is attached to the spray tube and which holds down the tongue and leaves the back of the throat exposed to the action of the spray, while it also serves to catch any drops of condensed spray and prevent them running on the tongue. The apparatus is packed into a very neat velvet-lined box, and the retail price of the whole is 10*s.* 6*d.*



Obituary.

Bland.—January 20, 1877, Mr. John Handel Bland, pharmaceutical chemist, Stonrbridge. Aged 70 years.

Carr.—January 15, 1877, Mr. Joseph Carr, chemist and druggist, Normanton.

Greaves.—December 4, 1876, Mr. George Braylesford Greaves, chemist and druggist, Clifton, Derby. Aged 72 years.

Humphries.—January 17, 1877, Mr. Charles Humphries, chemist and druggist, St. Mary's Road, Garston, Liverpool. Aged 40 years.

Kent.—November 28, 1876, Mr. Alfred Kent, pharmaceutical chemist, Iffley, Oxon. Aged 67 years.

Naldrett.—January 9, 1877, Mr. G. T. Naldrett, pharmaceutical chemist, late of Hammersmith and Bognor. Aged 31 years.

Price.—January 18, 1877, Mr. John Price, chemist and druggist, Treforest. Aged 50 years.

Roberts.—January 15, 1877, Mr. Albinus Roberts, pharmaceutical chemist, St. Albans. Aged 63 years.

Rome.—December 3, 1876, Mr. Robert Moncrieff Rome, pharmaceutical chemist, Langholm. N.B. Aged 58 years.

Taplin.—January 13, 1877, Mr. Joseph Taplin, pharmaceutical chemist, Bristol. Aged 61 years.

Tomlinson.—December 28, 1876, Mr. Eldred Edward Tomlinson, chemist and druggist, Whitohaven. Aged 20 years.

Wardle.—January 7, 1877, Mr. William Henry Wardle, pharmaceutical chemist, Stalybridge. Aged 58 years.

Willson.—January 16, 1877, Mr. William Willson, chemist and druggist, Alford, Lincolnshire. Aged 69 years.

PATENTS

[The following list has been compiled expressly for The Chemist and Druggist by G. F. Redfern, Patent Agent, successor to L. de Fontainemoreau & Co., 4 South Street, Finsbury, London; and at Paris and Brussels.]

Provisional Protection for six months has been granted for the following :—

3703. J. M. Richards, of Great Russell Street Buildings, London. Improvements in the manufacture of pills, and in the machinery or apparatus to be employed in such manufacture. Dated September 21, 1876.

3946. A. E. A. Detiaque, of Château Thierry, France. Improvements in the means of and machinery for making Italian paste covers for the purpose of enclosing medicinal substances. Dated October 12, 1876.

4360. H. C. Sanders, of Victoria Gardens, Ladbroke Road, London. Improvements in stoppers for bottles, jars, and other vessels. Dated November 11, 1876.

4726. L. W. Day, of North Tawton, Devonshire. A new or improved stopper for bottles and other vessels, and in appliances relating thereto. Dated December 7, 1876.

4755. T. Hyatt, of Gloucester Gardens, Hyde Park, London. Improvements in adhesive plasters, and in the means, modes, and processes for manufacturing the same. Dated December 8, 1876.

4758. D. McKechnie, of St. Helen's, Lancashire. Improvements in the treatment of oxides of iron, so as to render them more suitable for the production of iron. Dated December 8, 1876.

4774. G. Bartlett, of Dulwich Road, Surrey. Improvements in filters for filtering water. Dated December 9, 1876.

4826. F. Maxwell-Lyte, of Essex Street, Strand, London. Improvements in the production of ammonia anhydride. Dated December 13, 1876.

4848. G. Rydill, of Pontefract Villa, Highgate, London. Improvements in treating sewage, extracting filtration, preparing disinfectants and manure. Dated December 15, 1876.

4904. J. Storer, of Glasgow. Improvements in jars or analogous vessels for containing acids, spirits, and other liquids. Dated December 19, 1876.

4912. W. V. Wilson, of Cottage Grove, and H. Cant, of Coborn Street Bow, London. Improvements in the manufacture of aniline dyes. Dated December 20, 1876.

4915. J. T. and E. Lyon, both of Prescott, Lancashire. Improvements in the manufacture of stoppers for bottles. Dated December 20, 1876.

4939. A. L. Normandy, of Albert Square, Clapham Road, Surrey. Improvements in distilling apparatus, and in the mode of working the same; applicable also to produce aërated fresh water from salt water. Dated December 21, 1876.

4952. T. H. Cobley, of Dunstable, Bedfordshire. Improvements in the manufacture of potash alum from aluminous rocks, earths, or substances. Dated December 22, 1876.

4979. T. Shaw and W. Blackburn, both of Marsh, Huddersfield, Yorkshire. A new or improved method of and apparatus for measuring and drawing off any given quantity of liquid from a vat, cask, cistern, or other vessel containing it in bulk. Dated December 23, 1876.

4980. W. Laing, of Glasgow. A new or improved soft soap. Dated December 23, 1876.

4999. J. B. Hunkel, of Catoctin-Furnaces, United States. Certain improvements in processes for eliminating phosphorus from iron. Dated December 27, 1876.

5008. T. L. Parker, of Dundee, Forfar, North Britain. Improvements in the packing and storing of perfumes and other similar articles for use, and in the receptacles therefor. Dated December 28, 1876.

5061. C. Forrest, of Edinburgh, and A. Forrest, of Manchester. A new or improved machine for drying and powdering blood and excrementitious matter ; also suitable for drying or evaporating saccharine and other solutions or materials, and for dissolving and mixing purposes wherein heat is required. Dated December 30, 1876.

22. S. Bennet, of Harrogate Road, South Hackney, London. Improvements in labels to be applied to pill boxes and other similar articles or receptacles. Dated January 2, 1877.

27. W. R. Lake, of London. An improved apparatus for testing the quality of milk and other substances. Dated January 2, 1877.

77. E. Solvay, of Brussels. Improvements in the manufacture of chlorine. Dated January 8, 1877.

91. E. Solvay, of Brussels. Improvements in the manufacture of hydrochloric acid. Dated January 9, 1877.

103. H. Y. D. Scott, of Ealing, Middlesex. Improvements in the treatment of fæcal matters and ammoniacal compounds for the production of manures. Dated January 9, 1877.

115. A. D. Wolochoff, of Gray's Inn Road, London. Improvements in the method or means of permanently affixing the divisions, figures, and markings to glass tubes or cylinders employed in the manufacture of clinical and other thermometers, barometers, hydrometers, and salinometers, which improvements are applicable to graduated glass tubes or cylinders of every description. Dated January 10, 1877.

171. E. Solvay, of Brussels. Improvements in means of utilising certain silicates and aluminates of lime and of magnesia. Dated January 12, 1877.

Letters Patent have been issued for the following :—

2866. A. Deiss, of Plaistow, Essex, and R. Scaife, of Moorgate Street, London. A new and improved process for treating indiarubber, gutta-percha, amber, resin, and other vegetable gums; and also ceraffine, ozokerite, bitumen, asphalte, sulphur, and other mineral and animal products, in order to free them from impurities, and render them more valuable for solutions, varnishes, and other useful purposes. Dated July 13, 1876.

2950. R. W. Wallace, of New Road, Battersea Park, Surrey, and C. F. Claus, of Great Saint Helen's, London. Improvements in the manufacture of salts of barium and other salts, which improvements are also applicable to the extraction of silver from argentiferous pyrites. Dated July 19, 1876.

2951. R. W. Wallace, of New Road, Battersea Park, Surrey, and C. F. Claus, of Great Saint Helen's, London. Improvements in the manufacture of sulphate and other salts of zinc, and in certain applications of the said salts. Dated July 19, 1876.

3056. E. V. Gardner, of Berners Street, Oxford Street, London. Improvements in the manufacture of explosive compounds, and in the construction of apparatus to be employed therein. Dated July 29, 1876.

3069. J. Cocksbott, of Manchester. A new or improved combined apparatus to be used by chemists, druggists, and others, for dispensing purposes. Dated July 31, 1876.

3151. C. Forrest, of Edinburgh, and A. Forrest, of Manchester. A new or improved machine for drying and powdering blood or other material. Dated August 9, 1876.

3169. S. Pitt, of Sutton, Surrey. Improvements in the wet treatment of silicate ores of copper, nickel, and cobalt, to obtain the metals or metallic salts. Dated August 10, 1876.

3424. R. C. Richards, of Clifton Lodge, Preston. A new apparatus or appliance for uterine purposes. Dated August 30, 1876.

3461. S. Danischewski, of Wilna, Russia. Improvements in invalid beds and bedsteads. Dated September 2, 1876.

3523. G. G. Bassey, of Rye Lane, Peckham, Surrey. Improvements in stopping bottles, jars, casks, and other receptacles, and in stoppers and taps for this purpose. Dated September 7, 1876.

4048. G. E. Davis, of Runcorn, Cheshire, and J. B. Aitken, of Manchester. Improvements in the treatment of phosphates of alumina, or phosphates of alumina and iron, for the purpose of obtaining useful substances therefrom. Dated October 19, 1876.

4225. T. Galbraith, of Crawford Square, Londonderry. A new or improved hot-air bath or apparatus for the treatment of diseases of the human body. Dated November 1, 1876.

Specifications published during the month :—

Postage 1*d*. each extra.

1876.

1254. J. Brierly and H. McCraith. . Bottles and stoppers. 4*d*.
1418. H. B. Binko. Bottles. 4*d*.
1469. W. H. and F. Sinnatt and T. W. Lingard. Stoppers for bottles. 6*d*.
1513. J. Cammack and A. Walker. Heating and evaporating alkaline liquors, &c. 6*d*.
1534. N. Fritzner. Stoppers for bottles. 4*d*.
1589. J. Hannan. Bottles for aërated liquids. 6*d*.
1592. J. S. Wallace and E. Tucker. Ear trumpet. 6*d*.
1619. T. W. Spalding and W. Laughton. Treating lye waste. 6*d*.
1652. C. Pieper. Trusses. 4*d*.
1680. T. Bowen. Apparatus for the concentration of sulphuric acid. 6*d*.
1782. J. Hargreaves. Manufacture of sulphates, &c. 6*d*.
1796. H. W. Gilbert. Distilling alcohols, &c. 6*d*.
1797. S. Walker. Stoppers for bottles. 6*d*.
1820. E. F. J. A. Gervais. Machine for corking bottles. 6*d*.
1837. J. Bardsley and R. Hargreaves. Apparatus for drawing liquids from casks. 6*d*.
1849. B. Healey. Evaporating apparatus. 6*d*.
1856. Col. H. F. S. D'Esplavir. Artificial manure. 2*d*.
1901. F. Walton. Apparatus for rectifying spirits. 6*d*.
1904. E. Solvay. Manufacture of carbonates of soda. 8*d*.
2253. H. B. Fox. Aërated beverage. 2*d*.
2307. A. Weightman. Securing corks or stoppers. 2*d*.
2342. J. Longbottom. Stoppers for bottles. 2*d*.
2451. G. C. Mackrow. Labelling homœopathic medicines, &c. 2*d*.
2390. W. Whittbread. Pigment. 2*d*.
2398. E. Morgan. Milk powder. 2*d*.
2417. S. Walker. Stoppering bottles, &c. 2*d*.
2452. J. L. Guanziroli. Hydrometers, salinometers, &c. 2*d*.
2454. W. Walker. Stoppers for bottles. 2*d*.
2486. S. Hjerleid. Manufacture of sulphate of soda, &c. 2*d*.
2525. H. Warner. Smelling bottles. 4*d*.
2676. D. J. McLauchlan. Printing and cutting lozenges. 6*d*.
2555. T. Cotterill. Utilising waste products obtained in galvanising iron. 4*d*.
2563. J. Swindells and R. Lancaster. Manufacture of ammonia. 2*d*.

BANKRUPTCY.

Walter, William, trading as **William Walter & Co.**, 19 Clare Street, Dublin, chemist and druggist. Jan. 23.

BANKRUPTCY ANNULLED.

Maillis, Emanuel A. (Oct. 24), Union Court, Old Broad Street, sponge importer. Jan. 27.

LIQUIDATIONS BY ARRANGEMENT OR COMPOSITION.

Notices of first meetings of creditors have been issued in re the following estates. The dates are those of the "London Gazette" in which the notices first appeared.

Beck, James Theophilus, Cambridge, surgeon. Jan. 20.

Bird, Frederick Joseph, 43 Shacklewell Lane, Kingsland, aniline dye merchant, late manufacturer of washing machines. Jan. 23.

Carrington, Thomas Aaron, Spalding, Lincolnshire, ketchup maker Jan. 17.

Clayton, Robert, 364 Leeds Road, Bradford, stuff merchant and manufacturer of patent stoppers for bottles. Jan. 17.

Copp, Edmund, Waterloo Road, Manchester, dentist. Jan. 25.

Field, Thomas Goodwin, 47 Mortimer Road, Kingsland, chemist. Jan. 13.

Fothergill, Smart Atkinson, Haswell, Durham, physician and surgeon Jan. 12.

Johnson, Frederick, jun., 62 Derby Road, Nottingham, chemist. Jan. 20.

Mann, David, Leeds, surgeon. Feb. 3.

Moore, Rchd. Bond, Brewood, Staffs., late Victoria Street, Wolverhampton, surgeon. Feb. 2.

Morley, Edw. Swond, Blackburn, doctor of medicine. Jan. 31.

Morris, John, Back Water Street, Manchester, druggists' sundries-man (separate creditors). Jan. 26.

Nicholson, William George, 31 Hulton Street, Moss Side, Manchester, and Tomlinson Street, Hulme, druggists' sundries-man (separate creditors). Jan. 26.

Pasco, John, 189 and 234 Ordsal Lane, Salford, chemist. Jan. 16.

Pearce, Wm., trading as **Pearce & Co.**, St. Peter's, Peter Street, Bristol, dealer in druggists' sundries and surgical instrument manufacturer. Jan. 29.

Rhodes, Thomas Burn, Cherry Orchard Road, Croydon, chemist. Jan. 11.

Ross, Henry, 50 York Street, Manchester, operative chemist. Jan. 4.

Stokes, John, 29 George Street, Altrincham, chemist. Jan. 13.

Turner, Thomas Aubrey, 43 Gower Street, late 182 King's Road, Chelsea, surgeon. Jan. 16.

Uttley, Thomas, 133 Spotland Road, Rochdale, druggist. Jan. 17.

White, Barrington Syer, Twickenham, late Isleworth, surgeon. Jan. 17.

Wingate, Stephen, 25 Southgate Street, Gloucester, chemist. Jan. 10.

PARTNERSHIPS DISSOLVED.

Baker & Fletcher, East Retford, chemists.

Burgess & Paul, Glastonbury, surgeons.

Earp, Parker & Co., Tunstall, chemical manure manufacturers. So far as regards William Richard Earp and Eliza Parker.

Eshelby & Garrett, Stonehouse, surgeons.

Lugan & Strother, High Street, Notting Hill, chemists.

Nicholas & Fry, Forest of Dean, chemical manufacturers.

Paterson Brothers & Bateson, Livesey, chemical manufacturers.

Pridham & Spurway, Paignton, surgeons.

Thomas & Ryding, Neath, surgeons.

Trotter, Trotter & Hind, Stockton-on-Tees, surgeons. So far as regards Arthur Edwin Hutchinson Trotter.

Watson & Davison, Penistone, physicians.

EXCHANGE COLUMN.

TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

FOR DISPOSAL.

Attfield's "Chemistry," new. 10/17.

A soda-water machine, 30*l.* "Chemist," 34 High Street, Putney.

Half-gallon wrought-iron tincture press. N. Webb, Chemist, Calne.

Two hundred shop bottles and 500 ointment jars, pink and blue, from 8 oz. to 4 lbs., cheap. Natali, 213 Old Street.

Four 1-oz. bottles Howard's quinine, 2*l.* 2*s.*; eight ditto, 4*l.* 2*s.* 6*d.* Watson, Chemist, Rochester.

One-gallon still, with block tin worm, 10*s.*, only once used. Townley, Chemist, Keswick.

Cheap, second-hand soda-water machines, by Barnett and Hayward Tyler. Apply to N. G. Wilcocks, Back Street, Bath.

Soda water pump, by Barnett. What offers? J. Goucher, Chemist, Shrewsbury.

Pharmaceutical Journal from 1866 to 1876, unbound? What offers? J. Goucher, Chemist, Salop.

Maw's fig. 4 breast-pump, brass, in mahogany case, good condition, 5*s.* 37/11.

Two 4-oz. bottles of Howard's quinine, 10*s.* per oz., or what offers? Must realise. 22/15.

Glass show case, similar to fig. 40 Maw's catalogue: to be sold, a bargain. Butler, Chemist, Tunbridge Wells.

One 5-grain 24-pill machine, 14*s.*, original cost 25*s.* W. Russell, Chemist, Brentwood.

A printing press (Francis, Rochford), and large quantity of type and everything requisite for printing; cost 7*l.* 10*s.*; what offers? Connor, Alresford, Hants.

Copper still, 24 gallons, with condensing worm, complete, to be sold a bargain. Apply by letter, C. R., care of Messrs. Barron, Squire & Co., Bush Lane, E.C.

Two-oz. wide mouth bottles, best quality, 2-oz., 1½-oz. and 1-oz. narrow mouths, 5*s.* gross. Part stock of maker—deceased. Donbavand, Westgate, Dewsbury.

Soiled trusses—7 doz. double, 15*s.*; 8 doz. single, left, 10*s.*; 3 doz. single, right, 10*s.* Holdernesse & Co., Corporation Street, Manchester.

Dentifrice, about 1 cwt. of cuttle-fish bone deposit or pith—dissected from the bone, and showing the laminæ. Samples free by post, 2 oz. 8, 4 oz. 12 stamps. 3/10.

Very handsome pair of brass pillar counter-scales, standing on a 20-in. mahogany stand, with drawer. Colk & Williams, 16 Bishop's Road, Paddington.

Quite new, post free, Thorpe and Muir's "Qualitative Analysis," 3*s.*; Balfour's "Elements of Botany," 3*s.* Milner's Astronomy," 2*s.* H. O. Brown, Barrow, Ulceby.

Traveller's sulky gig, nearly new, on high wheels, first-class style; lowest price ten guineas, worth much more, but have no use for it. J. Floyd, Bury St. Edmunds.

A vulcanite plate electrifying machine, cost 4*l.* 10*s.*, nearly new; price 2*l.* 10*s.*, or what offers? A. Parker, Chemist, Uttoxeter.

First 25 vols. *Pharmaceutical Journal*, half-bound calf, quite perfect, not been out of book-case since bound, sent carriage paid, for 6*l.* 6*s.* 12/12.

The fittings of a chemist's shop, including mahogany counter, mahogany-fronted drawers, with glass knobs, handsome show jars, &c. 29/15.

Cheap dispensing bottles, 4 oz., 4th part flat, best quality, 8*s.* 6*d.*; 6 oz., flat or oval, 9*s.* 6*d.*; 12 oz., 14*s.*; 16 oz., 16*s.* per gross; also a quantity of 6 and 8 oz. chipped and lettered at 5*s.* 6*d.* Andrews, Chemist, Eastbourne.

Two ozs. potassium, 10*s.*; 2 ozs. salicine, 14*s.*; 1 oz. santonine, 3*s.* 6*d.*; 10 ozs. ext. coloc. co., 5*s.*; 3 lbs. tinct. senna, 5*s.*; 5 lbs. ol. succini, 5*s.*; 4 lbs. p. aloes hepat., 7*s.* T. Hainbridge, Midsomer Norton, Bath.

Pharmaceutical Journal for 1873, 1874, 1875, 1876, also *The Chemist and Druggist* for 1869, 1870, 1871, 1872, 1873, 1875, both complete. What offers? "Chemicus," 344 High Street, Lincoln.

Four 4-gallon carboys on mahogany roller stands, price 2*l.* Materia Medica cabinet, as good as new, half-price, 1*l.* Hulme, 146 Regent's Park Road.

Pharmaceutical Journal, 1875, 1876, quantity of back numbers, and a few *Chemist and Druggist*; American cooking-stove, "The Countess," No. 6. What offers? Bygott, Huddersfield.

A large fire and fraud proof safe, of strongest make, 36 inches high, 24 inches wide, 24 inches deep; price 12 guineas; cost 24*l.* W., Messrs. Newbery & Sons, Newgate Street, London.

A glass percolator, graduated to 12 pints, 2 tubes, nearly new; a pastille machine, to cut 12 pastilles; a rain gauge; to be sold cheap. John Kemp, Chemist, Lincoln.

Pharmaceutical Journal, in good condition, from the first number of the third series to the present one, few missing; what offers, cash or otherwise? Address, J. B. E., 8 Church Street, West Hartlepool.

Handsome chloroform and other inhaler, with three mouthpieces, in leather case, nearly new; price 30*s.*, cost 3*l.* 3*s.*; also smaller one in leather case, price 6*s.*, cost 15*s.* Mr. Smith, 6 Castle Street, Hastings.

Twenty-two single, 4 double, soiled trusses, for 21*s.*; ebony tooth key, equal to new, 5*s.*; 4 forceps, gum lancet, all in good condition, 12*s.*; ⅙ doz. 2*s.* 9*d.* Henry's magnesia, 3*s.*; ¼ doz. 1*s.* 1½*d.* Hooper's black currant cough elixir, 1*s.* 6*d.* Furnival, Chemist, Hanley.

Muspratt's "Chemistry" (63 parts), Tanner's "Medicine" (4th edition), Pereira's "Selecta," and Valentine's "Chemical Analysis" (1st editions, and as good as new); also Southnll'e Materia Medica Cabinet. What offers for all or part? Y., Chas. E. Lambert, Elvet Bridge, Durham.

An assortment of Japanese Perfumery Company's perfumes and toilet requisites; retail value, 10*l.* 8*s.* 10*d.*; cost price, 5*l.* 19*s.* 9*d.*; will take 5*l.*, counter stand and pamphlets included. Full particulars on application to W. S. Harvey, Chemist, Margate.

Rare opportunity. A complete series of the *Pharmaceutical Journal* (41 volumes) from commencement to end of last June, 18 vols. bound, the rest in numbers arranged for binding, all clean and perfect, price 5*l.* Thomas D. Walker, Dresden, Staffordshire.

Twelve one-pound bottles of ol. lavand. Ang. Mitcham, warranted five years old, each bottle sealed by first-class London wholesale house; also two pounds ol. menth. pip. Ang. Mitcham opt. State offers, either cash or goods, for all or part. B. J., Messrs. S. Maw, Son & Thompson, Aldersgate Street, London.

A handsome Spanish mahogany dispensing counter, in first-class order, 7 feet 6 inches long, 5 feet high; ornamental ground glass panel, 6 feet by 1 foot 3 inches, with words, "Dispensing Department;" panelled mahogany cupboards, with carved trusses in front; complete fitting for dispensing behind, desk, label, drawer, &c. Apply to Hunter, 45 Kensington High Street, W.

Carriage paid.—Vols. 1-11 *Pharmaceutical Journal*, third series, half calf, cloth sides, 9*s.* vol.; Balfour's "Manual Botany," 8*s.* 6*d.*; Fresenius' "Qualitative Analysis," 6*s.*; Sutton's "Volumetric Analysis," 8*s.*; Hoffman's "Chemistry," 3*s.*; Wilson's, 2*s.* 6*d.*; Macadam's "Practical," 1*s.* 6*d.*; Roscoe's "Chemistry," 3*s.*; "Year-Book of Pharmacy," 1872 to 1875, 4 vols., 1*l.* 1*s.*; all late editions, and nearly new. Fairbairn, 39 Lower Clerk Street, Edinburgh.

Pharmaceutical Journal, first 14 vols., bound in half calf, price 3*l.*; also from January, 1857, to April 24, 1875 (September, 1860, missing), the whole in good condition, price 3*l.*, or 5*l.* for the lot; Thompson's "Dispensary," price 2*s.* 6*d.*; Thompson's "Chemistry," 4 vols., 7*s.*; *Lancet*, vols. 1 and 2, 4*s.*; Baxter's "Agricultural Knowledge," 3rd edition, 2*s.* 6*d.*; also a round iron cistern, 5 feet deep, 2½ feet diameter, with zinc lid and copper tap, price 30*s.* Forbes, Chemist, Reigate.

On exceptionally good terms for prompt cash, a very handsome dispensing counter, fitted with drawers, new label rack, and screen on top, formed by a handsome mirror, with tablet on top, and two curved front upright cases, shelves at back, &c., by Tomlinson & Co., Manchester; an upright and curved front wall case, No. 35 on Tomlinson & Co.'s list; a splendid mahogany counter, 14 feet long; a variety of upright, bent, and flat cases; scales; specie jars; and a great variety of fitting requisites, stocked on especially favourable terms. 26/97.

The entire handsome Spanish mahogany chemists' fittings, &c.; original cost 600*l.*, to be sold a bargain; can be made to suit almost any shop; also 10 nests mahogany gold-labelled shop drawers, with lockers under, various sizes. Lloyd Rayner, 333 Kingsland Road, London, N.

Four flat mahogany counter cases, 30 by 13, 11*s.* each; 4 ditto, 30 by 15, 13*s.* each; mahogany desk and case, plate-glass, as Maw's 21, 52*s.* 6*d.*; 6 gross large leech bite teats, 7*s.* 6*d.* per gross; 20 dozen or less 2 oz. female glass syringe, 3*s.* 6*d.*; 30 gross real wax dip 3 months' floats, 12*s.*; flat ebonised counter case, 60 by 22 in., 63*s.*; flat plate-glass case, 60 by 22, ebonised, 80*s.*; 1 ditto, 66 by 22, 85*s.*; lot of Maw's floats and wicks, 6*d.* size, 2*s.* per dozen; 10 gross 1*d.* camphor, 4*s.* 6*d.* per gross, in boxes; 10 dozen [gold-plated respirators, Nos. 7, 8, and 9, 15*s.* per dozen, worth 40*s.*; 4 brass telescope enemas, 3*s.* each; 6 fountain enemas, as Maw's 15 and 16, 8*s.* 6*d.* each; 60 Brittan's label dampers, 1*s.* 9*d.* and 2*s.* 6*d.* each; set of eight Clevedon's forceps (new), in case, 31*s.* 6*d.*; a 36-pill machine (new), 3-grain, 17*s.* 6*d.* R. Tomlinson, 15 St. Paul's Square, Birmingham.

Two mahogany]curved counter cases, 3 ft. 6 in. by 18 in., silvered back and sloping shelf, with 3 trays, velvet lined, 3*l.* 10*s.* each, or 6*l.* 10*s.* the two; triangular soda water stand, with carved legs and mahogany top, as Maw's 58, 4*l.* 10*s.*; 2 plate glass tablets, bevelled edges, gold ground, black letters in ebonised frames, 40 in. by 7 in., the word "Chemist" on one, "Druggist" on the other, suitable for facias, or window-bottoms, 30*s.* each; 4 flat counter cases, 30 in. by 16 in., 12*s.* each; 3 mahogany shop chairs; 2 ornamental honey jars, crimson and gold, and green and gold, 17*s.* 6*d.* each; brass counter scale, with mahogany slab and ruby glass pillar, 30*s.*; slide, pillar, and other grain scales with drawers, 15*s.* to 21*s.* each; polished teak and mahogany stained marine medicine chests, for 10 men to 21 men and upwards, from 17*s.* 6*d.* to 40*s.* each; mahogany family chest, fitted complete, 40*s.*; the new pink ointment and pill jars, with dome covers and burnished labels, stoppered rounds, various sizes; black digesters, blue and drab pill jars, all new. Simcock, 2 Copenhagen Street, Islington.

Handsome Spanish mahogany fronted panelled counter, with pilasters and carved trusses, with massive mahogany moulded top, 18 ft. long, 2 ft. 6 wide, including drawers, with divisions for labels, &c.; handsome Spanish mahogany wall-fitting, can be made suitable for any sized shop, consisting of drawers, with glass labels and knobs on each side, with shelving and cornice above, &c., and plate-glass wall-case in centre, with silvered plate-glass poison cupboards on each side, and mahogany cupboards underneath, with mahogany cornice on top; handsome Spanish mahogany window enclosure, with silvered plate-glass sliding doors, and iron rod on top for carboys; handsome Spanish mahogany partition or screen, to form a parlour at end of shop, with large dispensing department, tablet, and silvered plate-glass door, with mahogany cornice on top, can be made to suit any sized shop; one 3 ft. 10 long handsome mahogany wall case, with mahogany cupboards under, as Maw's 196; one 6 ft. 6 long handsome mahogany wall case, with silvered plate-glass pilasters, and mahogany cupboards under, similar to Maw's 199; ten mahogany moulded-top French-polished counters, with and without [drawers from 5 ft. to 20 ft. long; 4 ft. long Spanish mahogany plate-glass counter case, as Maw's 95; 2 ft. 2 long, 17 in. wide, 7 in. high flat mahogany glass counter case, with silvered-glass door at back to open; 2 ft. 9 long best plate-glass case, 14 in. wide, 11 in. high, with sloping shaft at back; mahogany best plate-glass tooth-brush case, as Maw's fig. 72; handsome toilet-stand, with silvered-glass back and cut-glass bottles, similar to Maw's 69; mahogany cigar cases, as Maw's 53 and 53 A; Spanish mahogany desk, 2 ft. 4 long, 2 ft. 4 wide, 1 ft. 9 high, as Maw's 37; upright plate-glass case, as Maw's 38; four mahogany-stained polished shop chairs, as Maw's 245. Two mahogany carved shop chairs; ruby shop lamp 'and bracket, as Maw's fig. 1; handsome ruby lamp and pillar, similar to Maw's 16; three 16-gall., two 12-gall., six 8-gall., eight 6-gall., four 4-gall., fourteen 2-gall. pear-shape carboys, with cut-glass stoppers, &c. Lloyd Rayner, 333 Kingsland Road, London, N.

A very handsome fixture as Maw's 210, 8 feet long, 30*l.*; a first-class dispensing screen, 6 feet 6 in. long, glass case at each end, looking-glass centre, with marble slab in front, 8*l.* 10*s.*; a 5 feet do. do., as Maw's 164, 6*l.*; a sponge case as Maw's 92, 5*l.*; also one 3 feet 2 in. long, as Maw's 92, 5*l.* 10*s.*; an upright case, to stand in front of counter, on floor, 4 feet 6 in. long, marble top, 5*l.*; desk and case, as Maw's 21, 65*s.*, together or separate; 6 feet 6 in. bent plate-glass counter-case, Maw's 105, 7*l.* 10*s.*; a 6 feet do., 105, 7*l.* 10*s.*; a 6 feet do. do., Maw's 99, 7*l.* 10*s.*; a 7 feet 2 in. bent plate-glass counter-case, ebonised, one piece, plate, fitted with 6 trays, 7*l.* 10*s.*; a 5 feet do. do., 4*l.* 10*s.*; a 6 feet flat plate-glass case, very superior make, 4*l.* 10*s.*; a 5 feet do., Maw's 96, 5*l.*; a 3 feet 10 in. bent plate-glass counter-case, 3*l.* 10*s.*; a do. do. No. 101, 70*s.*; Kent's tooth brush case, 27*s.*; a case, as fig. 7, 30*s.*; sponge case, fig. 90, 3*l.* 15*s.*; soda water stand, fitted with fountain, fig. 63, 4*l.*; 6 carboy stands, 2 in. thick, solid mahogany, French polished, 8*s.* each; 2 looking-glasses, 60 by 30, black frames, 50*s.* each; 4 jars, glass, gold covers, 7*s.* 6*d.* each, elegantly labelled; ten 3-gall. carboys, 5*s.* each; 12 glass jujube jars, labelled, 2*s.* 6*d.* each; six 3-lb. blue jars, 15*s.*, almost new, labelled; 10 ex. pots to] match, 4*s.* Natali, 213 Old Street, City Road.

WANTED.

Two or three pairs of spring crutches. Thresh, Buxton.

Lowest cash price for three 4-gal. pear shaped carboys, cut glass stoppers. Edwd. Jas. Evans, Llanybyther.

Show case after Treble's 17 to 19; 4 feet desk, good sponge case. State full particulars to W. Kemp, Horncastle.

Second-hand shop rounds, sets of shop drawers, large iron mortar and pestle. Parkinson, Chemist, Sleaford.

January and February, 1875, *Chemist and Druggist.* J. R., 37 Milton Street, Newcastle-on-Tyne.

Chemist and Druggist for April, 1876, wanted. 2*s.* 6*d.* given. Address "Chemist," 40 Sankey Street, Warrington.

A set of tooth forceps, also set of scaling and stopping instruments. Address J. Leach, 18 St. Sepulchre's, Canterbury.

Chemist and Druggist for July, 1871, December, 1872. Storrar, Kirkcaldy.

A Barnett's or Hayward Tyler's soda water machine, large size. Particulars to Ruston & Co., Chemists, Exeter.

A cheap dental chair, with movable head rest. Smith, Chemist, Crediton.

A chemical balance; send price, condition, and other particulars to Evans, Chemist, Medical Hall, Teignmouth.

Two 1-gal. upright carboys, cut stoppers; 1 doz. mahogany-fronted boxes, gold labels, about 12 by 9 by 10 inches. Wooster, Turnham Green.

Three nests mahogany-fronted drawers, with lockers, glass labels and knobs, 5 feet 6, 6 feet, and 8 feet long, 12 inches deep, 4 feet 2 inches high, in good condition. 8/33.

A set of pocket dental instruments. Must be in good condition. State price and number of pieces. "Medicus," 7 Pembroke Street, Cork.

ADDRESSES AND INFORMATION WANTED.

[Chemists able to give any information in reply to queries printed below are respectfully requested to communicate the same, addressing in the first instance to the reference figure given, "Care of the Publisher of THE CHEMIST AND DRUGGIST." Charge for insertions, 1*d.* per word.]

William Appleby, last known at Bristol. 11/299

The maker of Shepherd's ipecacuanha lozenges. 15/98.

Edwin Joplin, formerly fly proprietor at Tunbridge Wells; supposed to be in Leeds or neighbourhood. 22/14.

W. T. Johnson, doctor's assistant, supposed to be in practice on his own account. 24/14.

J. Chetwynd, tall, slight, talks through his nose, drinks soda water. 2/14.

Address of Messrs. Wright & Co., manufacturers of pilosagine. 12/10.

Address of George Jeans, chemist, formerly residing at Martock. 19/299.

Mrs. Wells, supposed to be about Manchester—very tall, has husband and son, uses Davis' Pain Killer. 6/296.

F. K. Rollitt, solicitor, rather deaf, connections in Hull; successful information rewarded. 35/16.

A manufacturer of a good "Vaporizer," or spray distributor, suitable for using disinfectants or applying spray to plants? 56/96.

THE CHEMICAL SOCIETY.

Thursday, January 18, 1877.

Professor Odling, F.R.S., Vice-President, in the chair.

After the usual business, the secretary read a paper by Dr. Jäger "On some Derivatives of Dithymyltrichlorethane," a substance produced by adding a mixture of sulphuric and acetic acids to a mixture of thymol and chloral. By heating this compound with zinc dust it yields dithymylethane and dithymylethene. Mr. Kingzett then read a preliminary notice, by Dr. Hake and himself, "On some New Reactions in Organic Chemistry, and their Ultimate Bearings," showing that the colour reaction known as the "Pettenkofer reaction," produced by the action of sulphuric acid on sugar and cholic acid, extended to many other substances, some of which did not require the admixture of sugar to produce the colour. This was followed by a paper "On Dinitroso-Orcin and Dinitro-Orcin," by Dr. Stenhouse and Mr. C. E. Groves, in which the methods of preparation and properties of these compounds were fully described. The last communication, by Mr. T. Carnelly, was "On High Melting Points, Part III." The meeting was then adjourned until Thursday, February 1.

Thursday, February 1, 1877.

Professor Abel, F.R.S., President, in the chair.

After the ordinary business of the meeting, Dr. H. E. Armstrong read a paper "On Kekulé's and Ladenburg's Benzene Symbols," in which he discussed the relative value of the two symbols as a means of expressing the known reactions of benzene and its derivatives, pointing out that although it might be considered proved that in benzene the six carbon atoms were linked together in a closed chain, we had no evidence to show the manner in which the atoms were united. Subsequently Mr. W. H. Perkins read a paper "On the Formation of Coumarin and of Coumaric and other analogous Acids from the Aromatic Aldehydes." These acids, of which twenty are described in the paper, were obtained by the action of a metallic salt and acid anhydride on the aromatic aldehydes. The meeting was finally adjourned until Thursday, February 15.

No improvement in the general trade of the country is yet manifest, and the little approach to speculation which broke out towards the end of last year seems to have quite died away.

According to the official accounts there was a diminution in the declared value of our national exports last month of 708,432*l.* as compared with that in January last year, and of rather over 1,000,000*l.* when compared with that in the same month of 1875, as shown by the following totals:—January, 1877, 15,946,080*l.*; January, 1876, 16,654,512*l.*; January, 1875, 16,986,760*l.*

In regard to the chemical trade it may be remarked that the export of chemical products (other than alkali) shows a slight advance in value for the month over January, 1875. This advance is to the extent of over 5,000*l.* Alkali, however, is reduced in amount to the extent of over 11,000*l.*

The chemical manufacturers have been unable to maintain the prices for their products which existed at the opening of the year, and in many cases there has been a fall, or, if not, there is a weakness, which offers the same advantage to purchasers. Buyers who speculated a month ago, when there seemed an early prospect of hardened rates, have in many cases abandoned their holdings, and this for the moment makes trade more difficult to producers. For instance, oxalic acid is nominally quoted at 5*d.* to 5¼*d.*; but two casks put up at last drug sales were sold at 4¾*d.* Soda crystals have given way to 82*s.* 6*d.*, but a slight rally is manifest lately.

Bleaching powder has met with only a limited demand, and is quoted at 7*s.* 6*d.* per cwt. landed. Cream of tartar offering at 107*s.* to 108*s.* per cwt., but comparatively little business doing. No improvement in the demand for tartaric, which is still quoted at 1*s.* 6½*d.* per lb. for English crystals or powdered, and 1*s.* 5½*d.* for foreign crystals. In citric a fair business has been done at 2*s.* 8*d.* per lb. Sal ammoniac in moderately active demand at unaltered prices of 44*s.* and 45*s.* per cwt. Carbonate of ammonia is still quoted at 5*d.* to 5¼*d.* per lb. according to packages. Chlorate of potash, after selling at 8½*d.* per lb., met with considerably more demand, and a large business resulted at improving prices, general quotation at the close being 9¼*d.* per lb. Prussiate dull and unaltered in value at 11½*d.* to 1*s.* per lb. Bichromate in little demand, and quoted at 4½*d.* to 4¾*d.* per lb. according to delivery. Sulphate of copper sold to a fair extent at unaltered price of 21*s.* 9*d.* to 22*s.* per cwt. for ordinary first quality. Refined saltpetre rather lower at 23*s.* to 24*s.* per cwt. according to packages, and comparatively little doing. Sulphur steady at 10*s.* per cwt. for roll, and 12*s.* to 14*s.* for flour, with a moderate business. Arsenic offering at 9*s.* 6*d.* to 9*s.* 9*d.* per cwt. landed, but not much business. Alum selling to a good extent at 7*l.* 5*s.* to 7*l.* 10*s.* for lump, and 7*l.* 17*s.* 6*d.* for ground. Refined borax steady at 40*s.* per cwt. net money for London make, with a fair business passing. Sugar of lead still quoted at 37*s.* to 38*s.* per cwt. for best white, with a moderate demand. Green copperas selling somewhat readily at 60*s.* to 65*s.* per ton according to packages. Another advance of 2*s.* 6*d.* per cwt. has been made in magnesia, the calcined product responding by the addition of a further 2*d.* per lb.!

The price of quicksilver has been reduced, mercurials following. Quinine is very firm, at previous rates, 11*s.* for English, and 10*s.* to 10*s.* 3*d.* for French; and as there seems to be an actual scarcity of the rich barks, together with at least a possibility of war, it is quite on the cards that an investment of a little superfluous cash in quinine might turn out profitable, even at present rates. To buy on the advance already made is, however, a dangerous speculation.

Large supplies of drugs have been brought to sales, and the demand has been fair. As already stated, there has been keen competition for the best cinchona bark, and a feature has been the extreme rates brought by East Indian. A month ago some very fine Madras crown realised as much as 9*s.* 2*d.* Balsam copaiba is firmly held, and the supply is short. Camphor maintains its recent advance. In opium there have been but small transactions, and no move has taken place in price. Cantharides are rather dearer, Russian especially being bought at an advance. Vanilla is also higher. Expressed almond oil is now up to 1*s.* 4*d.* Cod-liver oil is firm, and castor oil also keeps to its recent rates. The production of lemon and bergamot oils is said to be short, and some improvement is probable in the quotations for these essences. Colombo root is dearer, but rhubarb, except finest, has sold at lower prices.

The oil markets have been unaccountably dull all round. The briskness and speculation which we reported in our last seemed to collapse entirely just about that period, and the tendency has since been in many cases very flat. Olive keeps up to last month's quotations, but linseed has quite lost its advance. Rape is about 20*s.* per tun cheaper, and cotton seed and fish oils have also fallen to about the same extent. Both petroleum and turpentine have run down rapidly, with occasional slight rallies. Of the former it would seem as if the "combination" are not to have it all their own way this year, their brilliant success during the latter part of 1876 having tempted much new capital into the refining business. That the *coup* will be repeated, however, whenever circumstances seem favourable, is an almost certain conclusion to be drawn from the prosperity attending last year's exploit.

A further advance, averaging fully 2*d.* per lb., has been established in cochineal.

Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.	1877.					1876.				
ACIDS—	s.	d.		s.	d.	s.	d.		s.	d.
Acetic .... per lb.	0	3½	to	0	0	0	4	to	0	4½
Citric .... ,,	2	8	..	0	0	2	10½	..	2	11
Hydrochlor .... per cwt.	5	0	..	7	0	4	0	..	7	0
Nitric .... per lb.	0	4¾	..	0	0	0	5	..	0	5½
Oxalic .... ,,	0	5	..	0	5¼	0	5	..	0	0
Sulphuric .... ,,	0	0¾	..	0	0	0	0¾	..	0	1
Tartaric crystal .. ,,	1	6½	..	1	7	1	6	..	0	0
powdered ,,	1	6½	..	1	7	1	0	..	0	0
ANTIMONY ore .... per ton	240	0	..	300	0	280	0	..	300	0
crude .. per cwt.	26	0	..	38	0	37	0	..	38	0
star .... ,,	56	0	..	0	0	59	0	..	60	0
ARSENIC, lump .... ,,	26	0	..	26	6	27	6	..	28	0
powder .... ,,	9	9	..	10	0	13	0	..	13	3
BRIMSTONE, rough ... per ton	120	0	..	130	0	150	0	..	0	0
roll .. per cwt.	10	0	..	0	0	10	0	..	10	3
flour .... ,,	13	6	..	0	0	12	6	..	15	0
IODINE, dry .... per oz.	0	5¾	..	0	0	0	6	..	0	0
IVORY BLACK, dry .. per cwt.	8	6	..	0	0	8	6	..	0	0
MAGNESIA, calcined .. per lb.	1	0	..	0	0	1	6	..	0	0
MERCURY .... per bottle	155	0	..	0	0	220	0	..	0	0
MINIUM, red .... per cwt.	23	3	..	0	0	24	0	..	25	6
orange .. ,,	37	0	..	0	0	37	0	..	0	0
PRECIPITATE, red . per lb.	3	11	..	0	0	4	9	..	0	0
white ,,	3	10	..	0	0	4	8	..	0	0
PRUSSIAN BLUE .. ,,	0	0	..	0	0	0	0	..	0	0
SALTS—										
Alum .... per ton	145	0	..	150	0	147	6	..	155	0
powder .... ,,	157	6	..	160	0	165	0	..	0	0
Ammonia:										
Carbonate .... per lb.	0	5	..	0	5¼	0	5	..	0	5½
Hydrochlorate, crude, white .... per ton	560	0	..	670	0	570	0	..	650	0
British (*see* Sal Am.)										
Sulphate .... per ton	370	0	..	380	0	365	0	..	370	0
Argol, Cape .... per cwt.	84	0	..	95	0	88	0	..	92	0
Red .... ,,	57	0	..	79	0	71	0	..	90	0
Oporto, red . ,,	33	0	..	33	6	33	6	..	34	0
Sicily .... ,,	60	0	..	62	0	60	0	..	62	6
Ashes (*see* Potash and Soda)										
Bleaching powd... per cwt.	7	6	..	8	0	7	9	..	0	0
Borax, crude .... ,,	27	0	..	40	0	30	0	..	50	0
British refnd. ,,	40	6	..	42	0	53	0	..	0	0
Calomel .... per lb.	3	6	..	0	0	4	3	..	0	0
Copper:										
Sulphate .... per cwt.	22	0	..	22	6	24	3	..	24	6
Copperas, green .. per ton	55	0	..	65	0	65	0	..	70	0
Corrosive Sublimate p. lb.	2	11	..	0	0	3	8	..	0	0
Cr. Tartar, French, p. cwt.	107	0	..	109	0	110	0	..	0	0
brown ,,	95	0	..	0	0	90	0	..	92	6
Epsom Salts .... per cwt.	5	3	..	7	0	5	3	..	6	6
Glauber Salts .... ,,	4	6	..	5	6	4	0	..	5	6
Lime:										
Acetate, white, per cwt.	11	0	..	20	0	11	0	..	20	0
Magnesia: Carbonate ,,	47	6	..	0	0	42	6	..	0	0
Potash:										
Bichromate .... per lb.	0	4½	..	0	4¾	0	4½	..	0	5
Carbonate:										
Potashes, Canada, 1st sort .... per cwt.	0	0	..	0	0	27	6	..	0	0
Pearlashes, Canada, 1st sort .... per cwt.	0	0	..	0	0	30	0	..	0	0
Chlorate .... per lb.	0	9	..	0	9¼	0	9½	..	0	0
Prussiate .... ,,	0	11½	..	1	0	1	0¼	..	0	0
red .... ,,	2	1	..	2	2	3	2	..	3	3
Tartrate (*see* Argol and Cream of Tartar)										
Potassium:										
Chloride .... per cwt.	0	0	..	0	0	7	0	..	0	0
Iodide .... per lb.	7	9	..	8	0	8	0	..	8	3
Quinine:										
Sulphate, British, in bottles .... per oz.	11	0	..	0	0	6	6	..	6	9
Sulphate, French ,,	10	0	..	10	3	6	2	..	0	0
Sal Acetos .... per lb.	0	7½	..	0	8	0	8	..	0	8½
Sal Ammoniac, Brit. cwt.	44	0	..	45	0	44	0	..	45	0
Saltpetre:										
Bengal, 6 per cent. or under .... per cwt.	20	3	..	21	0	18	6	..	19	0
Bengal, over 6 per cent. per cwt.	19	0	..	20	0	17	9	..	18	3
British, refined ,,	24	0	..	25	6	22	0	..	23	6
Soda: Bicarbonate, p. cwt.	11	9	..	12	0	11	0	..	0	0
Carbonate:										
Soda Ash .. per deg.	0	2	..	0	0	0	1⅝	..	0	0
Soda Crystals per ton	82	6	..	85	0	82	0	..	0	0
Hyposulphite, per cwt.	0	0	..	0	0	0	0	..	0	0
Nitrate .... per cwt.	12	0	..	0	0	11	3	..	11	6
SUGAR OF LEAD, White cwt.	37	0	..	38	0	40	0	..	0	0
SUGAR OF LEAD, Brown, cwt.	27	0	..	0	0	27	0	..	0	0
SULPHUR (*see* Brimstone)										

	1877.					1876.				
	s.	d.		s.	d.	s.	d.		s.	d.
VERDIGRIS .... per lb.	1	1	to	1	5	1	1	to	1	5
VERMILION, English ,,	8	1	..	0	0	8	2	..	0	0
China ,,	2	9	..	0	0	4	0	..	0	0

DRUGS.

	s.	d.		s.	d.	s.	d.		s.	d.
ALOES, Hepatic .... per cwt.	70	0	..	160	0	60	0	..	160	0
Socotrine .. ,,	65	0	..	180	0	65	0	..	200	0
Cape, good .. ,,	49	0	..	50	0	36	0	..	39	0
Inferior .... ,,	41	0	..	48	0	30	0	..	35	0
Barbadoes .. ,,	55	0	..	190	0	45	0	..	210	0
AMBERGRIS, grey .... oz.	60	0	..	75	0	55	0	..	60	0
BALSAM—										
Canada .... per lb.	1	1	..	0	0	1	0	..	0	0
Capivi .... ,,	1	10	..	2	0	0	0	..	0	0
Peru .... ,,	5	3	..	0	0	0	0	..	0	0
Tolu .... ,,	11	0	..	12	0	0	0	..	0	0
BARKS—										
Canella alba .... per cwt.	20	0	..	24	6	0	0	..	0	0
Cascarilla .... ,,	16	0	..	21	0	24	0	..	26	0
Peru, crown & grey per lb.	1	3	..	3	1	1	4	..	3	4
Calisaya, flat ,,	2	6	..	5	0	2	6	..	4	6
,, quill ,,	2	9	..	5	0	2	6	..	4	6
Carthagena ,,	2	5	..	3	7	1	2	..	2	2
Columbian .. ,,	2	0	..	5	3	1	0	..	2	10
E. I. .... ,,	2	3	..	7	4	1	4	..	4	7
Pitayo .... ,,	0	10	..	2	4	0	6	..	1	9
Red .... ,,	2	0	..	4	6	1	0	..	4	6
Buchu Leaves .... ,,	0	1	..	1	1	0	1	..	1	1
CAMPHOR, China .. per cwt.	80	0	..	87	6	69	0	..	70	0
Japan .. ,,	90	0	..	0	0	72	6	..	0	0
Refin. Eng. per lb.	1	3	..	0	0	1	0½	..	1	1
CANTHARIDES .... ,,	2	6	..	3	8	3	6	..	5	0
CHAMOMILE FLOWERS p. cwt.	45	0	..	200	0	35	0	..	60	0
CASTOREUM .... per lb.	9	0	..	30	0	6	0	..	26	0
DRAGON'S BLOOD, lp. p. cwt.	140	0	..	260	0	130	0	..	200	0
FRUITS AND SEEDS (*see also* Seeds *and* Spices).										
Anise, China Star per cwt.	90	0	..	105	0	102	0	..	105	0
Spanish, &c. ,,	28	0	..	40	0	28	0	..	48	0
Beans, Tonquin .... per lb.	1	7	..	2	7	1	6	..	4	6
Cardamoms, Malabar good .... ,,	3	9	..	4	2	4	3	..	5	11
inferior .... ,,	0	10	..	3	8	1	0	..	3	9
Madras .... ,,	1	11	..	3	5	3	0	..	4	0
Ceylon .... ,,	4	6	..	4	9	6	0	..	6	8
Cassia Fistula .... per cwt.	10	0	..	32	0	7	0	..	13	0
Castor Seeds .... ,,	5	0	..	10	6	5	0	..	10	6
Cocculus Indicus ,,	9	0	..	11	0	13	6	..	16	0
Colocynth, apple .. per lb.	0	6	..	0	11	0	6	..	0	11
Croton Seeds .... per cwt.	35	6	..	36	6	44	0	..	45	0
Cubebs .... ,,	28	0	..	29	0	30	0	..	0	0
Cummin .... ,,	18	0	..	33	0	19	0	..	23	0
Dividivi .... ,,	10	0	..	15	0	12	0	..	16	0
Fenugreek .... ,,	8	0	..	12	0	18	0	..	22	0
Guinea Grains .. ,,	20	0	..	0	0	21	0	..	0	0
Juniper Berries ,,	8	0	..	10	0	10	0	..	11	6
Nux Vomica .. .. ,,	8	9	..	13	3	7	0	..	12	6
Tamarinds, East India ,,	10	0	..	15	6	13	0	..	20	0
West India ,,	10	0	..	15	6	8	6	..	16	0
Vanilla, large .... per lb.	39	0	..	45	0	50	0	..	60	0
inferior ,,	15	0	..	35	0	21	0	..	30	0
GINGER, Preserved, per lb.	0	5	..	0	6¾	0	5¼	..	0	10
HONEY, Chili .... per cwt.	40	0	..	47	6	35	0	..	54	0
Jamaica ,,	35	0	..	47	0	44	0	..	53	0
Australian ,,	0	0	..	0	0	43	0	..	55	0
IPECACUANHA .... per lb.	4	8	..	4	10	0	0	..	0	0
ISINGLASS, Brazil .. ,,	2	6	..	4	9	2	2	..	4	9
Tongue sort ,,	3	0	..	5	11	2	7	..	5	
East India ,,	2	0	..	4	10	1	3	..	5	6
West India ,,	4	0	..	4	7	4	1	..	4	0
Russ. long staple	8	0	..	12	0	12	0	..	15	0
,, inferior	0	0	..	0	0	0	0	..	0	0
,, Simovia	2	0	..	3	3	3	0	..	4	0
JALAP, good .... ,,	0	8	..	0	9½	0	9	..	0	10
infer. & stems ,,	0	7	..	0	7½	0	6	..	0	8¾
LEMON JUICE .... per degree	0	1	..	0	1½	0	1⅝	..	0	2
LIME JUICE .... per gall.	1	3	..	1	8	1	6	..	2	0
LIQUORICE, Spanish per cwt.	0	0	..	0	0	0	0	..	0	0
Liquorice Root ,,	12	0	..	30	0	16	0	..	30	0
MANNA, flaky .... per lb.	5	6	..	6	0	5	6	..	6	0
small .... ,,	1	6	..	1	9	1	6	..	1	9
MUSK, Pod .... per oz.	15	6	..	50	0	15	0	..	50	0
Grain .... ,,	35	0	..	60	0	37	0	..	61	0
OILS (*see also separate list*)										
Almond, expressed per lb.	1	4	..	0	0	1	2	..	0	0
Castor, 1st pale .... ,,	0	4½	..	0	5¼	0	3¾	..	0	4
second .... ,,	0	4⅛	..	0	4⅜	0	3¼	..	0	3½
Cod Liver .... per gall.	6	6	..	8	6	3	4	..	7	3
Croton .... per oz.	0	2½	..	0	0	0	2½	..	0	0
Essential Oils:										
Almond .... per lb.	20	0	..	0	0	24	0	..	25	0
Anise-seed .... ,,	6	9	..	6	10	7	0	..	0	0
Bay .... per cwt.	0	0	..	0	0	65	0	..	70	0
Bergamot .... per lb.	10	0	..	15	0	10	0	..	15	0
Cajeput .... per bottle	3	0	..	3	6	2	9	..	3	0
Caraway .... per lb.	9	0	..	9	3	9	0	..	9	3
Cassia .... ,,	3	10	..	0	0	3	11	..	4	0
Cinnamon .... per oz.	2	6	..	6	6	2	6	..	6	6
Cinnamon-leaf	0	2½	..	0	3	0	2	..	0	3
Citronelle .... ,,	0	2	..	0	0	0	1¾	..	0	2½
Clove .... per lb.	8	9	..	0	0	9	3	..	9	4
Juniper .... ,,	0	0	..	0	0	0	0	..	0	0
Lavender .... per lb.	1	8	..	7	0	1	8	..	7	
Lemon .... ,,	7	0	..	9	6	7	0	..	9	
Lemongrass .... per oz.	0	2½	..	0	0	0	2½	..	0	3

	1877.				1876.			
Essential Oils, *continued*:—	s.	d.	s.	d.	s.	d.	s.	d.
Neroli .... ,,	3	0	6	6	3	0	6	6
Nutmeg .... ,,	0	6½	0	7	0	7	0	0
Orange..........per lb.	6	0	9	0	6	0	9	0
Otto of Roses....per oz.	13	0	25	0	13	0	25	0
Patchouli ...... ,,	2	0	3	6	2	0	3	6
Peppermint:								
American ....per lb.	12	9	14	6	17	0	17	9
English ...... ,,	34	0	35	0	34	0	35	0
Rosemary ...... ,,	2	0	2	6	2	0	2	6
Sassafras ...... ,,	2	3	2	6	0	0	0	0
Spearmint ...... ,,	12	0	15	0	15	0	16	0
Thyme.......... ,,	0	0	0	0	0	0	0	0
Mace, expressed ..per oz.	0	6	0	10	0	7¾	0	10
OPIUM, Turkey ......per lb.	24	0	25	0	19	6	21	6
inferior ...... ,,	10	0	18	0	14	0	18	0
QUASSIA (bitter wood) per ton	100	0	140	0	100	0	200	0
RHUBARB, China, good and fine ....per lb.	2	6	4	5	3	0	4	8
Good, mid. to ord. ,,	0	8	1	4	0	9	2	10
Dutch Trimmed.. ,,	0	0	0	0	0	0	0	0
ROOTS—Calumba..per cwt.	40	0	42	6	28	0	31	0
China .... ,,	30	0	32	0	19	0	24	0
Chiretta .... ,,	0	2½	0	3	0	3½	0	4
Galangal.......... ,,	20	0	26	0	19	0	22	0
Gentian .... ,,	23	0	24	0	23	0	24	0
Hellebore .... ,,	0	0	0	0	0	0	0	0
Orris .... ,,	26	0	75	0	26	0	75	0
Pellitory.......... ,,	70	0	76	0	0	0	0	0
Pink..............per lb.	0	0	0	0	0	0	0	0
Rhatany.......... ,,	0	4	1	0	0	4	0	10
Seneka.......... ,,	3	6	3	9	4	0	4	3
Snake .... ,,	0	6	0	6½	0	8	0	10
SAFFRON, Spanish .. ,,	33	0	37	0	30	0	36	0
SALEP .... per cwt.	0	0	0	0	0	0	0	0
SARSAPARILLA, Lima per lb.	0	5	0	7	0	0	0	0
Guayaquil .... ,,	1	9	2	0	0	0	0	0
Honduras .... ,,	1	1	1	6	1	3	1	10
Jamaica .... ,,	1	9	2	10	2	4	3	0
SASSAFRAS ....per cwt.	0	0	0	0	0	0	0	0
SCAMMONY, Virgin ..per lb.	24	0	30	0	30	0	45	0
second & ordinary ,,	6	0	22	0	8	0	24	0
SENNA, Bombay .... ,,	0	1	0	4	0	1	0	4
Tinnivelly .... ,,	0	2½	2	0	0	1½	0	10
Alexandria........ ,,	0	5	2	5	0	7	2	6
SPERMACETI, refined ,,	1	4	0	0	1	6	0	0
American .... ,,	1	0½	1	2	1	2	0	0
SQUILLS .... ,,	0	1½	0	3½	0	3	0	4

GUMS.

	£	s.	£	s.	£	s.	£	s.
AMMONIACI drop .. per cwt.	2	2	2	10	2	7	2	12
lump.. ,,	1	0	1	14	1	10	1	18
ANIMI, fine washed ,,	11	0	12	15	10	0	10	15
bold scraped ,,	9	15	10	15	8	15	9	15
sorts ...... ,,	6	15	9	10	6	0	8	5
dark ...... ,,	4	0	6	10	3	5	6	10
ARABIC, E.I., fine pale picked .. ,,	3	0	4	0	3	5	3	15
srts., md. to fin. ,,	2	15	3	0	1	8	3	2/6
garblings .. ,,	1	5	2	9	1	2	2	3
TURKEY, pick. gd. to fin. ,,	6	10	10	15	6	0	9	0
second & inf. ,,	3	0	6	10	2	10	5	10
in sorts .. ,,	2	5	3	5	1	10	2	5
Gedda .... ,,	1	12	1	19	1	2	1	6
BARBARY, white .. ,,	2	4	2	8	0	0	0	0
brown .. ,,	2	0	2	2	1	9	1	16
AUSTRALIAN...... ,,	2	5	3	0	1	17	2	6
ASSAFŒTIDA, cm. to fin ,,	0	18	2	11	0	18	1	16
BENJAMIN, 1st & 2nd ,,	27	0	45	0	10	0	30	0
Sumatra 1st & 2nd ,,	6	5	12	0	7	10	12	0
3rd	3	10	5	5	3	10	5	0
COPAL, Angola red ,,	6	0	6	15	6	0	6	15
Benguela ,,	4	0	5	0	4	0	5	0
	s.	d.	s.	d.	s.	d.	s.	d.
Sierra Leone, per lb.	0	5	0	11	0	7½	0	11
Manilla....per cwt.	15	0	27	0	15	0	27	0
DAMMAR, pale .... ,,	66	0	68	0	57	0	62	0
Singapore .... ,,	65	0	67	6	57	0	58	0
EUPHORBIUM .... ,,	9	0	15	0	12	0	20	0
GALBANUM .... per lb.	0	5	1	3	1	0	1	6
GAMBOGE, pckd. pipe per cwt.	220	0	270	0	180	0	240	0
GUAIACUM ....per lb.	1	3	3	0	0	6	2	0
KINO..............per cwt.	40	0	50	0	50	0	80	0
KOWRIE, rough .. ,,	20	0	45	0	22	0	48	0
scraped sorts ,,	47	0	60	0	50	0	70	0
MASTIC, picked ....per lb.	4	0	5	0	4	0	5	8
MYRRH, gd. & fine per cwt.	155	0	224	0	172	6	200	0
ord. to fair.... ,,	90	0	150	0	61	0	172	0
OLIBANUM, p. drop ,,	62	0	70	0	58	0	60	0
amber & ylw. ,,	55	0	61	0	45	0	55	0
garblings.... ,,	22	0	30	0	22	0	30	0
SENEGAL .... ,,	65	0	67	6	2	10	3	0
SANDARAC........ ,,	95	0	150	0	117	0	130	0
SHELLAC, Orange.. ,,	75	0	150	0	120	0	130	0
Liver .. ,,	95	0	110	0	110	0	130	0
THUS .... ,,	20	0	21	6	20	0	22	0
TRAGACANTH, leaf ,,	240	0	400	0	280	0	390	0
in sorts ,,	25	0	175	0	25	0	175	0

OILS.

	£	s.	£	s.	£	s.	£	s.
SEAL, pale ....per tun	34	10	35	0	34	10	35	0
yellow to tinged ,,	32	0	34	0	31	0	34	0
brown ...... ,,	31	0	31	10	29	0	30	0
SPERM............ ,,	89	0	0	0	96	0	97	0
BODY ...... ,,	0	0	0	0	0	0	0	0
COD	40	0	0	0	41	0	41	10

	1877.				1876.			
Oils, *continued*:—	£	s.	£	s.	£	s.	£	s.
WHALE, South Sea, pale, per tun	31	10	0	0	35	0	0	0
yellow ,,	30	10	31	0	32	0	34	10
brown ,,	29	0	30	0	28	0	30	0
East India, Fish ,,	25	0	26	0	24	0	0	0
OLIVE, Gallipoli....per ton	51	0	0	0	0	0	0	0
Gioja........ ,,	50	0	0	0	47	0	0	0
Levant .... ,,	0	0	0	0	0	0	0	0
Mogador .... ,,	0	0	0	0	0	0	0	0
Spanish .... ,,	0	0	0	0	0	0	0	0
Sicily ...... ,,	49	0	0	0	0	0	0	0
COCOANUT, Cochin.. ,,	41	0	42	0	40	10	0	0
Ceylon ,,	37	10	38	0	38	10	39	0
Sydney ,,	31	0	37	0	32	0	38	10
GROUND NUT AND GINGELLY:								
Bombay	0	0	0	0	0	0	0	0
Madras	40	0	0	0	34	0	0	0
PALM, fine..............	40	0	0	0	38	0	0	0
LINSEED	26	0	0	0	23	10	23	15
RAPESEED, English, pale ..	40	10	40	15	38	10	0	0
brown	38	10	38	15	36	10	0	0
Foreign, pale ..	40	10	40	15	39	0	0	0
brown	0	0	0	0	0	0	0	0
COTTONSEED	30	5	30	10	26	15	0	0
LARD	64	0	0	0	65	0	66	0
TALLOW	31	0	54	0	30	0	54	0
	s.	d.	s.	d.	s.	d.	s.	d.
TURPENTINE, American, cks.	30	6	0	0	25	0	0	0
French ,,	0	0	0	0	24	3	0	0
PETROLEUM, Crude	0	0	0	0	0	0	0	0
refined, per gall.	1	3½	0	0	0	10⅛	0	10¼
Spirit ,,	0	11	0	0	0	9	0	0

SEEDS.

	s.	d.	s.	d.	s.	d.	s.	d.
CANARY............per qr.	60	0	70	0	180	0	190	0
CARAWAY, English per cwt.	44	0	45	0	44	0	0	0
German, &c....	0	0	0	0	0	0	0	0
CORIANDER	12	0	21	0	12	0	18	0
HEMP..............per qr.	33	6	35	0	36	0	38	0
LINSEED, English per qr. ..	60	0	66	0	60	0	64	0
Black Sea & Azof	0	0	0	0	49	0	50	0
Calcutta ,,	50	6	0	0	49	0	0	0
Bombay ,,	52	6	0	0	50	6	51	0
St. Petrsbrg. ,,	52	0	0	0	0	0	0	0
Mustard, brown..per bshl.	12	0	15	0	0	0	0	0
white.. ,,	13	0	16	0	10	0	13	0
POPPY, East India, per qr.	51	0	52	0	49	0	50	0

SPICES.

	s.	d.	s.	d.	s.	d.	s.	d.
CASSIA LIGNEA ..per cwt.	55	0	65	0	53	0	70	0
Vera .... ,,	22	0	45	0	22	0	44	0
Buds .... ,,	75	0	80	0	95	0	105	0
CINNAMON, Ceylon:								
1st quality ......per lb.	1	10	3	7	2	3	3	9
2nd do. .... ,,	1	7	2	9	2	0	2	11
3rd do. .... ,,	1	5	2	6	1	11	2	6
Tellicherry ...... ,,	2	9	3	0	0	0	0	0
CLOVES, Penang .... ,,	2	4	2	5	2	0	0	0
Amboyna .... ,,	1	7	1	8	1	4	1	5
Zanzibar.......... ,,	1	1	1	2½	1	1	1	3
GINGER, Jam., fine per cwt.	91	0	202	6	100	0	202	6
Ord. to good .... ,,	54	0	90	0	62	0	95	0
African .... ,,	32	6	33	6	40	0	0	0
Bengal............ ,,	28	0	0	0	38	0	0	0
Malabar .... ,,	0	0	0	0	0	0	0	0
Cochin .... ,,	50	0	115	0	64	0	120	0
PEPPER, Blk, Malabar, per lb.	0	4½	0	5½	0	4¾	0	5
Singapore .... ,,	0	4¼	0	4½	0	4	0	0
White Tellicherry ,,	0	10	1	4	0	10	1	4
Cayenne.......... ,,	2	0	3	0	3	0	3	4
MACE, 1st quality .. ,,	2	1	3	2	2	2	3	1
2nd and inferior .. ,,	1	0	2	0	1	0	2	1
NUTMEGS, 78 te 60 to lb.	3	7	4	6	3	5	4	3
90 to 80 ,,	3	1	3	6	2	11	3	4
132 to 95 ,,	2	2	3	0	2	6	2	11
PIMENTA	0	4½	0	4½	0	2⅞	0	3¼

VARIOUS PRODUCTS.

	s.	d.	s.	d.	s.	d.	s.	d.
COCHINEAL—								
Honduras, black ..per lb.	3	0	3	3	1	10	2	5
,, silver .. ,,	2	9	2	11	1	7	1	10
,, pasty .. ,,	2	8	0	0	1	6	0	0
Mexican, black.... ,,	2	11	3	0	1	8	1	10
,, silver.... ,,	2	9	0	0	1	7	1	8
Teneriffe, black .. ,,	3	0	3	9	1	9	2	10
,, silver .. ,,	2	10	3	0	1	8	1	11
SOAP, Castile......per cwt.	26	0	33	0	33	0	34	0
SOY, China ...... ,, gall.	1	8	1	9	3	6	0	0
SPONGE, Turk. fin. pkd pr lb.	0	0	0	0	12	0	16	0
Fair to good ,,	0	0	0	0	4	0	11	0
Ordinary .. ,,	0	0	0	0	1	0	3	0
Bahama.... ,,	0	0	0	0	0	6	3	0
TERRA JAPONICA—								
Gambier ......per cwt.	22	0	0	0	26	0	0	0
Free cubes .... ,,	34	0	36	0	36	0	39	0
Cutch .... ,,	26	0	27	6	25	0	26	0
WOOD, DYE, Bar ..per ton	£3	5	£3	10	£3	0	3	10
Brazil .... ,,	0	0	0	0	0	0	0	0
Cam.............. ,,	18	0	35	0	0	0	0	0
Fustic, Cuba ...... ,,	8	10	9	0	8	10	9	0
Jamaica .... ,,	5	10	6	0	6	5	6	10
LOGWOOD, Campeachy ,,	9	0	9	10	9	0	10	0
Honduras ...... ,,	6	10	6	15	7	0	7	15
St. Domingo .... ,,	5	10	6	5	5	10	6	15
Jamaica .... ,,	5	10	6	15	6	0	6	10
LIMA, first pile .... ,,	8	10	9	10	9	10	10	10
RED SANDERS .... ,,	6	5	6	10	7	0	0	0

Notes and Queries

J. W.—"Pick-me-up" is the generic name for the various forms of morning tonic supplied by chemists to the gentry who feel their nerves want bracing, or who wish to make believe that such is the case. The following is a frequent formula:—

Sal volatile	♏ xxx.
Ether chloric	♏ xx.
Tinct. gent. co.	ʒ ij.
Tinct. card. co.	ʒ ij.
Aquæ ad.	ʒ ij.

Effervescing water is better if a syphon be at hand.

Pharmacalla and Newcastle-on-Tyne.—We have a long letter from Mr. J. B. L. Mackay, of Newcastle-on-Tyne, in reply to that of Mr. Hughes in our last. The subject, however, is mainly of local interest, therefore we cannot devote more space to the discussion. Mr. Mackay thinks that Mr. Hughes and himself might have better understood matters if one of them had gone "round the corner and dropped in." We coincide.

Ignoramus (Nottingham).—It is obligatory to enter in the Poisons' Book every sale of vermin killer containing strychnine, and the preparation you name does contain it. Your customers are unreasonable if they are offended at this precaution. In view of the frequent human deaths resulting from vermin killer, it is most essential that the law should be strictly enforced. (2). Write to the secretary of the Pharmaceutical Society for forms of certificates of apprenticeship. (3). Stick the labels on with gum, and afterwards cover with copal varnish. (4). We should say, judging from what we published last month, the label you send us does not render the preparation liable to medicine stamp duty.

A receipt, with instructions, was given some months ago, for a solution that would remove stains from old engravings. Mr. Joseph Ince would be obliged to any reader who would either give him information on the subject, or oblige with a reference to the paragraph. The formula appeared in one of the weekly or monthly periodicals, and was unfortunately burnt just as it was going to be tried.

H. A. C. must either have made some strange error in exhibiting Scheele's hydrocyanic acid to a dog, or the acid must have been in an advanced stage of decomposition. It need not be stated that H. Cy. undergoes change slowly when kept in the dark, but decomposes with rapidity in the light. The B. P. acid throws down a brown substance, and when this happens something wrong may be suspected. That a dog after a large dose of Scheele should struggle for an hour and then recover is a phenomenon to which we have not been accustomed.

We know of a case where an ingenious chemist exposed milk in saucers, strongly dosed with prussic acid. He hoped next morning to have seen a wholesale destruction of the feline race. This hope was not destined to be fulfilled, for H. Cy., though an intensely poisonous liquid, is *highly* volatile.

If the hydrocyanic acid is in good condition, we know of no more "humane" method of killing dogs.

Rufus sends a copy of the following prescription, and wishes to know the preparation to be employed:—

Acid. pot. tart.
Sulph. loti. āā .. .. ℥j.
capiat coch. min. ex lacte.

He states that it occurs frequently in prescriptions for hair washes.

The old washed sulphur should be dispensed, and not sulphur præcipitatum.

H. Wilson, Durham, wishes to be informed of the origin of chemists' show-bottles, and to gain some information respecting the symbolic signs. The question is answered in another part of this periodical. In the older pharmaceutical establishments of London, the signs painted on the show bottles have a definite meaning, but for more than a century they have been used simply as ornamentation.

A collection of ancient works on alchemy will be found in the library of the Chemical Society at Burlington House; by a perusal of which the whole of the chemical symbolism may be clearly made out. It may be classed under three heads, mythological, astrological, and conventional.

Papaveraceæ.—We would not recommend any preparation for syrup of poppies which merely requires mixing with simple syrup. You can make the liquor as ordered in the Pharmacopœia to the end of the first evaporation. To this product add the spirit, and the compound thus made will keep well. Syrup of poppies may be made from it as required by simply adding the sugar. By observing that the measurement and the specific gravity are as ordered, you will have the correct strength, though unless you proceed exactly as ordered in the Pharmacopœia your spirit will be wasted.

Alpha.—The names of the unsuccessful candidates at the Pharmaceutical Examinations are not made public. We are not quite of your opinion in reference to the suggestion you make, but we will see what other people's judgment says.

Amicus may find suggestions to help him in devising such a formula as he requires on page 36 of our last number, or on page 47 of our Diary, 1877.

C. H.—We have no recollection of publishing recipes for the manufacture of dry soap, nor are we able to give you such formulæ now. Perhaps some readers will oblige.

H. O. B.—Messrs. Longmans publish a work entitled "Industrial Chemistry," but we are not acquainted with it. It might, however, suit you if you want a general view of the applications of the science. If you were to tell us what particular department of "manufacturing chemistry" you wished to study, we might perhaps help you better.

Belladonna.—Cod liver oil with hypophosphite of lime is thus prepared:—

	Parts
Pulv. gum acaciæ	68
Aq. destill.	60
Syr. calcis hypophos.	120
Ol. morrhuæ..	250
Ol. amygd. ess.	6

Your own skill and judgment will no doubt suggest how much pepsine to combine with their compound for your customers' requirements. By "Oleum Jecoris Aselli Phosph." we suppose is meant the emulsion under that name prepared by Messrs. Richardson & Co., of Leicester.

Alpha.—The Apollinaris Company have the sole right of selling Apollinaris water in this country. They gained an injunction against some aërated water makers some time back (see The Chemist and Druggist, June, 1875) who put up The London Apollinaris Water. The Vice-Chancellor intimated that the prefix "London," did not sufficiently indicate that defendant's product was only professed to be an imitation. The Apollinaris water contains about the following in each pint:—

	grs.
Bicarb. soda	12
Magnes. carb.	5
Calcis carb.	1
Sodii chlorid.	5
Sodæ sulph.	3

"*A Lover of Justice*" writes to express the hope that the milk of sulphur case will be ultimately decided by one of Her Majesty's judges. He also asks what is the best form of label to put on milk of sulphur under present circumstances. The following was recommended to Messrs. Hirst, Brooke & Hirst by a firm of solicitors (see The Chemist and Druggist, March, 1875), "Milk of Sulphur: lac sulphuris, not sulphur præcipitatum."

Jabberwock.—Your preparation not being a medicine at all, is certainly not liable to the patent medicine duty. If you make a property in the article, the law will protect you against "colourable imitations" of your packages. You can if you please design a trade mark, and register the same for the package. The trade mark being registered would certainly be protected, but it is for the Court of Chancery to decide what is a "colourable imitation." Your other query, being a business one, must go in our Exchange Column.

Python.—The formula for Pharaoh's serpent's eggs has been given so frequently in these columns that we ought to be free from further inquiries respecting them. Dissolve mercury in dilute nitric acid, observing, however, to have an excess of the metal. Decant the solution and pour into it an equal weight of a saturated solution of sulpho-cyanide of ammonium or potassium. Collect the precipitate on a filter, wash and dry. Powder the lump, and with each pound mix an ounce of powdered tragacanth. A mass can be made with water. Note.—This compound is poisonous.

Ozone.—We must refer you to any work on chemistry for a description of ozone. Briefly it is supposed to be an allotropic oxygen. That is, it is oxygen, but in a different and more active condition. Pass electricity through oxygen and you have ozone. (2) Spirit of nitre is meant.

H. J.—You would find Beasley's "Druggist's Receipt Book" (Churchill, 6*s*.) very useful for its veterinary formulæ.

In reply to *Vigil* in last month, we have received the following:—"Let the salt be finely levigated, and the resin likewise reduced to an impalpable powder; next mix intimately the aloes (socotrine), and finally add 48 grs. tragacanth and glycerine mucilage (this is generally sufficient, although the quantity required varies slightly, according to the consistence of the excipient); work vigorously, and roll out quickly the plastic mass. The pills should be coated twice with varnish, either sandarach and ether, or tolu resin and chloroform (preferably the former), allowing the film to harden between each operation, and then stored in a dry place. The object of the coating is to obviate the absorption of water and consequent softening of the mass, from the deliquescent nature of the potassium iodide, therefore this process is absolutely necessary to enable them to retain their spherical shape. In any case the pills should not be kept long in stock, as even the resinous pellicle is slowly permeated by moisture, so penetrating an influence has this subtle and silent enemy to many drugs.

J. B. L. Mackay."

Mr. Dobbin, of Belfast, sends us the following, which is copied from the *Belfast News Letter*, December 24, 1770:—

"William Anderson, druggist and apothecary, has just imported a large assortment of fresh medicines, which he is enabled and determined to sell upon as low terms as any in this part of the kingdom; and for ready money at Dublin prices. He embraces this first opportunity of gratefully acknowledging the kind encouragement he has hitherto met with, which enables him to carry on business more extensively; and as he purposes always to pay the same care and attention he has done since his commencing business, hopes for a continuance of the countenance of his friends and the public as long as his conduct shall appear to merit it.

"Said Anderson will, upon terms, take a sober young lad (properly qualified) apprentice to the apothecary business."

G. writes:—"I should be obliged if you could tell me what annis water is. It is said to be used by laundresses and wholesale houses for glazing linen collars and cuffs." Perhaps some chemist is familiar with the preparation under this title.

Caret.—A label such as you suggest would not require the patent medicine stamp. But you must not recommend the article by advertisement or hand-bill.

A. B. wants a book containing good recipes for cordials, such as mint, shrub, &c.

W. J. F. wants an ink suitable for stamping prescriptions.